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ABSTRACT

A 3-year Title III project provided inservice training to 183 elementary teachers in methods of improving behavior, academic performance, and affective reactions of children with socio-emotional conflicts treatable in the regular classroom. The program included summer workshops and released-time training during the school year in indepth contingency management techniques for students, parent counseling, and communication skills. Data on the effects of the inservice teacher training on student classroom behavior were gathered by 18 specially trained observers at the beginning and the end of the 1973-74 school year, the effectiveness (as reflected in the reduced occurrence of inappropriate student behavior) of teachers who received training in contingency management techniques was compared with the effectiveness of teachers who had not received contingency management training, and the results of standardized achievement tests were analyzed to assess the effect of student behavior change on academic achievement. It was found that desired changes in student behavior (such as a lessening of student emotional conflict) resulted from application of the special teacher training, but no significant difference was found in students' academic achievement. (Appendixes include sample student rating and observer data forms, a list describing student behavior categories, and intercorrelations of pre- and posttest behavior categories.) (LH)

ED104068

DOTHAN CITY SCHOOLS

Title III Project

Comprehensive Services For Children*

THIRD YEAR EVALUATION REPORT

Prepared by

HumRRO Division No. 6
Dothan, Alabama 36301

AUGUST 1974

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HumRRO
FR-D6-74-3

*A nationally validated project by ESEA, Title III, PL 89-10 team members who determined the project to meet established criteria as innovative, cost-effective, exportable, and worthy of national dissemination.

This report was prepared by Division No. 6 of the Human Resources Research Organization (HumRRO), an independent evaluation agency, and was financed by funds provided under the Elementary and Secondary Education Act of 1965, Title III, PL 89-10, as amended.

Human Resources Research Organization

HumRRO

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30 August 1974

Mr. Wayne Ellis Bradshaw
Assistant Superintendent
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Post Office Box 1188
Dothan, Alabama 36301

Dear Mr. Bradshaw:

HumRRO Division No. 6 is pleased to submit this final evaluation report covering the third and last year of operation of the Dothan City Schools Title III Project, "Comprehensive Services for Children." The report summarizes the results of the project's third year and provides an overview of the entire three years of the projects operation.

The project succeeded because of the dedicated efforts of a large number of people, both within and without the Dothan City School System. The prime contributors to the success of the project were the elementary school teachers in the Dothan City Schools. It has been a pleasure for us to work with them, as well as to work with the Superintendent, with his central staff and with you and your project staff. I would like also to acknowledge the contributions of numerous individuals from various universities, the State Department of Education, and other governmental and non-governmental agencies.

We noted last year that the recognition this Title III Project had received in both state and national evaluations was a testimony to its effectiveness as an innovative educational program. The current evaluation report continues to reflect the effectiveness of the program.

The various HumRRO staff members who have been associated with this project are listed in the Preface to the report. For their

behalf and that of the Human Resources Research Organization I would like to thank all who participated in the project and in the evaluation.

Sincerely yours,

Wallace W. Prophet

WWP:ab
Enc.

WALLACE W. PROPHET
Director

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PREFACE

This report presents the evaluation data for the third and final year of the Dothan City Schools Title III project, "Comprehensive Services for Children." The project, which was planned for completion at the end of three years, has been conducted in accord with that plan, and the present report is the final evaluation to be submitted for the project. While the bulk of the data presented are for the project's third year, considerable reference is made to data from all three years of the project. The report seeks to provide an overview of the results and implications of the entire three years of operation.

Over the project's three years, there have been many persons who have been involved with the project in a variety of ways. Thanks are due to all of them, especially the more than 200 elementary teachers and principals in the Dothan City Schools who have worked hard and endured much in their support of the project's activities. The objective of the project has been to aid elementary students who suffer socio-emotional conflict problems through special teacher training. This objective has been accomplished through the efforts of the teachers.

In addition, the evaluation staff wishes to express its appreciation to the Project Director, Mr. Wayne Bradshaw, to Mrs. Ann Mobbs, to the project staff members who labored long and hard, and to Mr. Sam Price Jones, Superintendent of Schools, and to his staff for their cooperation and support. Finally, special thanks are due the housewives who contributed greatly to the project in the gathering of data. The Comprehensive Services for Children project has been an example of a broad spectrum of community participation in a program designed to improve services to its citizens.

Over the three years of the project a number of HumRRO personnel have participated. These include Dr. Johnnie Billrey, Mr. H. Alton Boyd, Dr. Paul W. Caro,

Dr. Joanne Dufilho, Mr. L. Paul Dufilho, Mrs. Katherine Paulk, and Dr. Wallace W. Prophet. During the third year, Dr. Bilbrey, Mr. Boyd, Mr. Dufilho, and Dr. Prophet have been responsible for HumRRO participation and the evaluation.

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Other Teachers - Control Students

I. EXECUTIVE SUMMARY

This report summarizes the activities and results of the third and final year of the Dothan City Schools project, "Comprehensive Services for Children." In addition to presenting the third-year results, the report presents evaluative comments covering the entire three years of the project.

The Comprehensive Services project has focused on the provision of special services in meeting the needs of elementary school children suffering socio-emotional conflict. These services are provided through the primary mechanism of special in-service training for teachers and through special resource staff members and consultants who worked with the teachers on student problems. The principal outcome variable examined has been student classroom behavior that could be conceptually related to socio-emotional conflict.

The project was planned to operate only for a period of three years. During the planned three years of operation it sought to establish a mechanism or program for providing services to conflict students that could continue to operate to the benefit of the system after the termination of the project. This feature of designing programs that can continue to operate autonomously after the special project has been completed is sometimes referred to as "turnkeying." As noted, the program model of the Comprehensive Services project relies basically on providing services within the regular classroom and primarily through the classroom teacher. Thus, the children receiving such services are retained in the educational mainstream with their peers rather than be singled out or segregated for special treatment. In many respects, the project is similar to the resource teaching concept that is receiving much attention in special education circles as an alternative to self-contained classroom in which exceptional children are segregated from their peers.

The project utilized an approach of seeking, over its three years, to provide the special training to an increasing number of Dothan elementary schoolteachers,

with the ultimate goal being to have all elementary teachers in the system receive the special in-service training. While this ultimate goal was not quite achieved, all but 22 of the system's 198 elementary teachers had, in fact, received all or portions of the in-service program by the end of the third year. The first year saw 26 classroom teachers receive the training, while 52 participated the second year. During the final year an additional 105 teachers participated.[1/] Thus, the project achieved one of its main goals, the turnkeying into the Dothan City Schools for the long-term benefit of the system the skills and knowledge acquired by the project participants.

The project was conducted generally in accord with its basic plan and design. As would be expected in a large-scale, multi-year program, changes were necessary, but the basic program structure retained its general integrity. Some alterations were made in the in-service training based on cumulative project experiences, and changes were made in the data collection, as necessary. However, the basic content of the in-service training remained generally the same, the method for selecting target student subjects remained constant, and the principal data of interest, i.e., specific classroom behavioral observations, remained the same throughout.

Viewing the accumulated data of the project's three years, it can be contended that desired changes in student behavior were brought about as a function of the special teacher training. These changes are changes that would logically be related to a lessening of student conflict problems. It should be noted that the principal data are objective, independent (i.e., independent of the teacher) observations of specific classroom behaviors of students rather than student statements of their feelings or teacher opinions concerning the degree of conflict present in their

---

1/ This totals to 183 program participants. This plus the 22 non-participants totals 205. The discrepancy between this figure and the elementary teacher population N of 198 cited is due to previous years' participants who have left the system.

students. In its reliance on independent classroom behavioral observations, this project, while perhaps not unique, is unusual. The behavioral criteria were stated in advance and were adhered to throughout the project's three years.

The data support the general conclusion that the special in-service training did provide the teachers skills which they applied in achieving a reduction of inappropriate behavior by their students who exhibited specified signs of emotional conflict. Further, the data indicate the techniques were useful in working with the full range of children in their classrooms. Equally important is the finding that these benefits continue to accrue in the system in the years beyond that in which the special training was provided the teacher. Probably a factor of central importance in the in-service training was the fact that portions of that training required that the teacher actually use the classroom as an application laboratory for the in-service training. In other words, the participants did not merely talk about new classroom techniques; the program required that they use them actively.

The program had its shortcoming too. It is obvious that as more and more teachers were brought into the program, the newer participants seemed to benefit less than did the earlier ones. This is a likely consequence of *any* in-service program involving all teachers. Equal benefits are not derived by all participants, and the earlier volunteers will tend to benefit more than the later participants. As stated, it is felt that any single in-service program would experience a similar result, and it is concluded that in-service training programs should be individualized to fit the needs, interests, and capabilities of individual teachers. However, it is recognized that most school systems are severely limited in the extent to which they can develop individualized in-service programs that are truly effective. Their resources are typically insufficient to conduct such programs effectively. Consequently, in-service programs may be required to rely on common mass training programs or modules of demonstrated effectiveness when used on a system-wide basis. The

inevitable result, though, will be that some will benefit much, and some little or not at all.

Another area in which the present project did not achieve demonstrable benefits was academic achievement. While it was not strongly anticipated in advance that teacher training aimed at techniques for dealing with socio-emotional conflict problems would have a major effect on student achievement, there was reason to believe that modification of the inappropriate classroom behaviors resulting from such conflict might be accompanied by improved academic performance. No such effect was found on a group basis, though it was clear that the children meeting the criteria established in this study as defining socio-emotional conflict are underachievers when compared with their non-conflict peers. In spite of the lack of major group effects, there were numerous instances in which individual students exhibited major gains in achievement as a result of teacher applications of their special training.

In summing up the project's three years, the data support the conclusion that the general program model used is effective in improving the classroom behavior of students with emotional conflict problems. The strength of the program lay in the combination of conscientious teachers working with central resource staff members and the project administrative personnel, and with outside consultants, on a specific class of student problems. A key aspect of the in-service training in producing significant classroom behavior change, and in sustaining that change over time, was the extent to which the in-service training required the teacher to use her own classroom as the laboratory in which to practice what she was taught. It is felt that this is a significant contrast with most in-service training programs in which there is no necessary application of the new knowledge and no specific yardstick that the teacher and the in-service staff can use in assessing the results of the teacher's application or non-application of that training. In the present case, application was required, and the behavioral criteria were very explicit and provided

feedback to both the teacher and in-service staff on the results of that application. The Comprehensive Services for Children project has left an imprint on the Dothan elementary schools in the form of teachers with new skills, new tools, and new understanding. While not every teacher nor every child can be said to have benefitted, the net product of the project is clearly positive.

II. IMPLICATIONS AND RECOMMENDATIONS

Based on the accumulated data and experience over the three years of this project, a number of recommendations are offered for consideration. These recommendations are based on the implications of this project with reference to means of better meeting the needs of children with socio-emotional conflict problems and the real-world constraints of what is possible in a school system such as the Dothan City Schools. Also discussed are certain of the process aspects of meeting those needs. The adoption and implementation of these recommendations, or variations thereof, would be the final step in turnkeying the results of the Comprehensive Services project to the continuing, long-term benefit of the Dothan City Schools. In addition, these recommendations have obvious relevance to other school systems, and they should be of interest to the Alabama State Department of Education and other educators.

Each recommendation is accompanied by an expository discussion concerning background for the recommendation and some details of its implementation. The recommendations are as follows:

a. It is recommended that an adaptation of the program model of the Comprehensive Services for Children be implemented in the Dothan City Schools on a permanent basis.

Discussion. The program approach of this project produced benefit to both those students who showed signs of socio-emotional conflict problems and those who did not. Thus, it would be of benefit to the entire range of children in the system, as well as in helping meet the specific needs of those with socio-emotional conflict problems. It is beyond the scope of this report to describe the exact form of this implementation. However, the following components are felt to be essential: (1) continuing in-service training for teachers, especially new teachers; (2) a

central resource staff; (3) a program coordinator, and (4) use of special consultants. Ideally, the in-service program would be tailored to meet the needs of individual teachers. It should focus on providing information and techniques that are directly implementable in the classroom, and there should be feedback on such implementation. The in-service program should be based on long-term goals that are mutually agreeable to the teacher and the system. The central resource staff should be trained in depth in the techniques and knowledge areas concerned. There should be an emphasis in their training and in their activities with the classroom teacher on actually working directly with children. They should be active participants with the classroom teacher in the solution of specific student problems. They should not assume the role of being only armchair experts or sideline observers or advisors. The program must involve a true teaming of the classroom teacher and the resource teacher, each of whom brings certain areas of strength and unique competencies to bear on the problem at hand. The program coordinator is necessary to insure that resources are directed to the proper place and that the program fit in with other programs and activities of the system. The coordinator should maintain an active information program with the classroom teachers, the principals, and the resource teachers. Within the Dothan City Schools, the coordinator of special education services might well serve as the coordinator for this program since the program is concerned with a type of behavioral exceptionality. In any event, since it is unlikely that dedicated teacher resources for this program can be established in each individual elementary school (though this would be ideal), there should be a central program management. The final point concerns the use of outside consultants. It is recognized that the primary load in this program must be borne by personnel within the school system. However, a judicious use of outside consultants is desirable to aid in solution of particularly difficult problem situations, in bringing in expertise in special content areas, and generally, as a

means of injecting new ideas into the system and its activities, or functioning as a catalyst for new ideas.

2. *It is recommended that the Exceptional Student Rating Form (ESRF) be administered regularly at the end of each school year as an aid in identifying students who may need special services in school.*

Discussion. The ESRF was a component of the procedure used in this project to identify those students exhibiting signs of emotional conflict and those without such signs. While there were also other parts to this procedure, a procedure that produced consistent results over the project's three years, in view of the cost in teacher and administrative effort, only the ESRF is recommended since it is simple and involves little extra work. Ideally, the other instruments would also be used, but they do involve more effort and cost. The information provided by the ESRF should be viewed as administratively confidential, though it should be accessible to the parents of the children involved, with copies going to the principal concerned and to the program coordinator. They can then use the information as a partial basis for their initial planning in the conduct of the program's activities for the next year. It should be emphasized that the program's operation is in no way bound to only the children identified on the ESRF, though they may provide the principal students of initial concern. The matter of confidentiality must be stressed to all parties concerned. Every effort must be made to avoid labeling students in a way that is prejudicial to their best interests. This recommendation is based on the facts that conflict behavior does provide an identifiable pattern and that such behavior can be modified in desired directions to the benefit of the child and the system. Identifying such children should be only for the purpose of better allowing them to receive services that are needed. The point of any such identification must always be to assist in constructive change of student behavior, not to provide an

explanation or excuse for the continuation into the future of inappropriate behavior patterns of the past.

3. It is recommended that effort be initiated specifically at enhancing the academic performance of conflict students.

Discussion. As noted in the report, while the Comprehensive Services project produced results in terms of decreasing the frequency of inappropriate behavior among conflict students, there seemed to be no systematic effect on academic performance. It is understandable that teachers are greatly concerned about inappropriate behavior on the part of conflict students (or non-conflict students as well), because such behavior often interferes with the conduct of instruction and may sometimes impinge on the rights, property, or persons of other students. Development of more appropriate classroom behavior patterns is obviously desirable. The project data indicate, as would be expected, that the conflict students do not achieve as well academically as do their non-conflict peers. A more effective means of meeting their academic needs is required. The techniques used in this project for modifying general classroom behavior are equally applicable to modifying academic behavior. In fact, on an individual basis some teachers achieved truly dramatic changes in the academic performance of specific students through use of those techniques. However, by and large, their attention with the conflict students was more likely to be focused on changing general classroom behavior than on changing academic behavior. In any event, attention should be devoted to the academic underachievement of these students. If Recommendation 2 is implemented, the students identified could be examined in terms of their backgrounds, psychological characteristics, and previous academic performance, and individual strategies and programs could be developed to modify their academic performance.

4. It is recommended that a systematic and regular system of communication be established to exchange information over all levels of the school system.

Discussion. An obvious necessity to the success of any special program in a school system is that there be an adequate information flow among the participants. There were difficulties in the Comprehensive Services project that could be traced to inadequate or untimely information flow. In a system the size of the Dothan City Schools there should be at least one--and preferably more than one--regular and systematic mechanism for such information exchange. The word "exchange" is important, for information must flow both up and down the chain from system administration to teachers, and even to parents, children, and the community. While this recommendation is offered in the context of implementing a program of special services to children suffering emotional conflict problems, it obviously applies to most, if not all, aspects of the school system's operations. There are many points of possible constriction in the information flow--the Superintendent's office, the program coordinator, program staff, principals, and teachers--but all of these persons or agencies have a common goal in a program such as this, the improvement of the educational experiences and opportunities of the system's students. Information flow is a necessity to the achievement of that goal.

5. It is recommended that the schedule for administration of system-wide standardized achievement tests be revised to an end-of-school year administation.

Discussion. This recommendation is made within the context of the needs of the special services program described in Recommendation 1, as well as in a somewhat broader context. It is felt that evaluation of the Comprehensive Services project was handicapped by the change of achievement testing to the beginning of the school year. While this project is completed, there will undoubtedly be other programs and projects instituted by the Dothan City Schools, some large and some small, in which academic achievement will be a main variable of concern. Having to

wait for results from the first of June until October, or later, seriously delays the evaluation of any such program. This is especially critical in programs that extend from one year to another in which adjustments to the subsequent year's program should be made on the basis of results achieved in the preceding year. Another aspect of this matter concerns feedback to the classroom teacher. The teacher is the principal agent of change and achievement in any school system, and, as such, is in need of timely information on the results of his or her interactions and efforts with the students. One of the most important points treated in the contingency management workshops mentioned elsewhere in this report is the criticality of timely and appropriate feedback, or knowledge of results, to the basic process of learning and the modification of behavior. This point is just as critical for the classroom teacher in his or her own self-evaluation of the results of that year's efforts in the classroom. This is a necessary basis for constructive change in the succeeding year's teaching. As a final observation on this matter, achievement testing must be handled efficiently and in standardized fashion. Appropriate test forms must be used, and results must be supplied promptly to those who need them, especially the classroom teacher.

III. PROGRAM DESCRIPTION

The project, "Comprehensive Services for Children," has completed the last of the three years for which it was funded. The general nature of the project was described in the first year's evaluation report.[1/] There have been certain changes in the project objectives over the three-year period, so a full description of the original project objectives and plans will not be presented here. Instead, the descriptive emphasis will be on those areas or aspects of the project in which changes have been made. However, a brief description of the project is in order as background for the reader who has not read the first-year evaluation report or the evaluation report for the project's second year.[2/]

In brief, the Comprehensive Services project sought to develop a better means of meeting the needs of elementary school children in the Dothan City Schools who had socio-emotional conflict problems of a magnitude sufficient to impair their progress or adjustment in school or that of their peers. The mechanisms to meet these needs were the provision of special in-service training for selected teachers in techniques and procedures for dealing more effectively with such children and the provision of personnel services to the children and their teachers by specially trained central staff members. In addition, numerous State, County, and local agencies, along with predesignated consultants who represented areas of expertise essential to the project, were available to work with the project staff and participating teachers.

[1/] Final Evaluation Report (First Year) for the Dothan City Public Schools Title III Project, "Comprehensive Services for Socio-Emotional Conflict." Institute for Development of Educational Auditing, Arlington, Virginia, August, 1972.

[2/] Second Year Evaluation Report for the Dothan City Schools Title III Project, "Comprehensive Services for Children." HumRRO Division No. 6, Dothan, Alabama, July 1973.

The basic objectives of the three-year project were related to activities, procedures, and mechanisms aimed at assisting children exhibiting emotional or social conflict problems in achieving a better adjustment to school and to their social and family situations. It should be noted that the term "socio-emotional conflict" is not used to connote "mental illness" or severe maladjustment. While the program is designed to assist any such severely maladjusted children, principally through referral to appropriate professionals and community agencies for assistance, the great majority of the socio-emotional conflict children of concern to the project are exhibiting normal, though not necessarily effective, behaviors and affective reactions to the vicissitudes of life and the problems of growing up in our society. These behaviors and reactions often may interfere with the progress or adjustment of the child, sometimes resulting in behavior that interferes with the rights and progress of others, to the extent that the child needs assistance from the teacher or others in developing more appropriate behavior patterns and more effective coping skills. Thus, the reader should not infer that the children who are the subject of this project and this report are abnormal. Rather, they represent, by and large, children who tend toward one end of the continuum of normal behavior, but who are clearly part of the normal population of school children. The reader will note, too, the effort that was made by the evaluation team to keep the identities of the subject children secure from their teachers, the project staff, and even from the Project Director. It was felt to be critical that no child, as an individual, be labeled in any fashion that might be considered derogatory.

OBJECTIVES

The objectives of the project were categorized as follows: (1) student related; (2) staff related; (3) parent related; (4) community related; and (5) administration related. A brief description of these objective categories follows.

Student-Related Objectives

The basic objective in this area was to upgrade the living skills of elementary students with emotional and/or social conflict problems through teacher-mediated classroom management techniques to enable those students to function more effectively in the total school setting. Undoubtedly, one can relate almost any aspect of what a child does, thinks, or feels to living skills. However, the intent of the project was to assist students in becoming more effective in their ability to cope with their own problems and to those related to the school environment. Since the schools cannot deal directly, at least in any major way, with the non-school background circumstances that affect the behavior and affective reactions of students, the project sought to provide the teacher the skills and knowledge required to make constructive classroom intervention with most students suffering normal conflict problems and to refer those with severe problems to appropriate agencies. Therefore, the major outcome variable of the teacher's intervention was to be student classroom behavior change. It was felt that positive behavior changes in the classroom, and the child's learning that appropriate behavior produces favorable consequences, would produce desirable general effects. More appropriate general behavior in the classroom might logically be expected to result in higher academic achievement, better school attendance, and a more favorable image of the student as seen by himself, his peers, and his teachers.

Staff-Related Objectives

The general project objective related to staff was to provide usable skills, knowledge, information, and understanding regarding conflict to the participating teachers through the in-service training program and the services of consultants and central staff members. Professional staff members and consultants utilized included educators, psychologists, psychistrists, pediatricians, and social workers. The goal of the project, over time, was to develop in-depth expertise that could be

turnkeyed back into the system. In-service training was designed to provide teachers with the skills and knowledge required to manage classroom situations more effectively and to advance the students' best interests. While this objective involved providing knowledge, information, and understanding, more specifically it was intended to bring about changes in teacher behavior, i.e., the application of their new skills and knowledge in the classroom.

Parent-Related Objectives

It was recognized that to be maximally effective a program dealing with children's conflict problems must involve parents. Therefore, an objective of the program was to establish mechanisms for the teachers and the system to interact with parents more frequently and effectively. During the third year of the project, counseling was available within the school setting for parents who requested assistance with problems related to their children.

Community-Related Objectives

Similarly, it was recognized that the involvement of the overall community and its human service agencies would be helpful in meeting the needs of the children of concern. Consequently, a program of agency referral and public information was established.

Administration-Related Objectives

The project was designed to provide the school administration with data on the products or results of specific procedures and activities by the staff. Knowledge of the costs and relative benefits of program alternatives is a necessary part of effective management and is an integral part of accountability.

PROGRAM MODEL

Student-related objectives were the central theme of the project, but their achievement depended on also achieving the staff-related objectives. As previously stated, the primary mechanism for meeting these portions of the project objectives was special in-service training for selected teachers. Their training began in the summer, prior to the beginning of the 1973-74 school year, when participating teachers attended a five-day workshop. Training was continued throughout the school year, and each participating teacher was released from her classroom duties one school day each month for eight months during the school year. In all, some 105 teachers participated in the in-service program during the 1973-74 school year. This compared to 26 participants in 1971-72 and 52 in 1972-73. Over the past three years, almost 90% of the 198 elementary schoolteachers in the Dothan City Schools participated in this special in-service training.

During the first year of the project two teachers from each of the 13 elementary schools received this training, while in the second year four teachers from each school were active in the program. During the third year, an attempt was made to include, at least in partial fashion, all of the remaining elementary schoolteachers in the system plus all the teachers who were new in the system at that time. The intent of the program was to have all elementary schoolteachers in the Dothan City Schools participate in the special in-service training program by the end of the third year of the project. In fact, there were only 22 elementary teachers who did not participate. Since all elementary schools did not have the same number of teachers, an equal number of participants from each school was not possible during the third year of the project, as had been the case in the previous two years. The distribution was such that three of the schools had 4, 7, and 14 participants, respectively, while the remaining 10 schools each had 8 participants.

At the outset, these 105 participants were divided for their in-service training into four groups, the groups being based generally on the grade level taught. That is, first- and second-grade teachers were generally assigned to Group 1, third-grade teachers to Group 2, fourth-grade teachers to Group 3, and fifth- and sixth-grade teachers to Group 4. This arrangement provided for relatively homogeneous groups in that the teaching techniques used by these teachers, the academic development of their students, and the general problems encountered in their classrooms would be similar for most members of a given group.

In-service training for the third year of the project followed essentially the same general schedule as was used in the 1972-73 school year. All of the above-mentioned groups attended the five-day in-service training workshop prior to the beginning of school. However, for the eight days of in-service training scheduled after school began, they attended, by group, for one day each month (i.e., Group 1 met on the second Tuesday, Group 2 the second Wednesday, Group 3 the third Tuesday, and Group 4 the third Wednesday). This allowed for scheduled topics to be directed to the problems characteristic of the grade levels represented in each group. The various activities in the in-service program are shown in Table 1.

It will be noted in Table 1 that 53 of the teachers received additional training on contingency management techniques during the released-time days for September and October. Contingency management, or behavior modification as it is sometimes called, is a very effective method to aid the teacher in her classroom management and has been offered in all three years of this project. As will be noted in the chapter on evaluation design, the 53 teachers who received this in-depth additional work with consultants on contingency management will be referred to as the 1973-74 Building Representative Group. The remaining 52 of the 105 teachers will be referred to as one of the two "Other Teacher" Groups, although they had all the in-service training activities except for the additional work on contingency

Table 1

Schedule of In-Service Training Activities for 1973-74

Date	Activities
May 21, 1973	Establish calendar of in-service training for FY74
May 29, 1973	Selection of Building Representatives for FY74
June 18, 1973	Conduct Orientation Program for Elementary Principals
August 20 - 24, 1973	Conduct One-Day Orientation Program for Project Staff and Elementary Teachers
August 20 - 24, 1973	Conduct Two-Day Individually Guided Education (IGE) Workshop for Project Staff and Elementary Teachers
August 20 - 24, 1973	Conduct Two-Day Contingency Management Workshop for Project Staff and Elementary Teachers
	In-service Activities as follows - typical schedule (Substitutes provided and teachers are released for a full day.)
September, 1973	a. Teaching Strategies for Personalized Instruction, or Contingency Management[1/]
October, 1973	b. Reaching and Teaching Culturally Deprived, or Contingency Management[1/]
November, 1973	c. The Teacher as a Classroom Manager
January, 1974	d. Parental Counseling Techniques and Methods
February, 1974	e. Communication Skills Workshop Follow-up
March, 1974	f. Visit Accelerated Learning Achievement Center - (Reading and Math, Dothan)
April, 1974	g. Trip to Visit out-of-city school (Exemplary program)
May, 1974	h. Summary and Critique

1/ Fifty-three of the 105 teachers received further in-depth instruction on contingency management techniques on these two days. The remainder received the other subjects indicated.

management. Twenty-two of the system's 198 elementary teachers did not participate in the special in-service program during one or more of the three years of the project. This group constitutes the second "Other Teacher" Group.

The orientation of the project was to provide teachers with both the specific skills to enable them to work more effectively with children who have emotional problems and with the general skills that would be beneficial in dealing with all children in their classrooms. Accordingly, the project design tended to prevent the teachers from concentrating on specific children selected for study by the project administration or the evaluation team. While the evaluation design did select specific samples of students who exhibited signs of emotional conflict for observation and other data collection and analysis, the identities of these children were not made available to the teachers or to the project administration and staff, including the Project Director.

IV. EVALUATION DESIGN

Evaluation of a project such as the present one involves systematic examination of major outcomes, or product variables, of the project. Evaluation is a necessary step in the administrative decision process involving examination of program alternatives and selecting program models or innovative practices for implementation. Just as the administrative decisions involving major program changes are complex matters, so is evaluation a complex matter.

As was pointed out in the previous chapter, the fundamental intention of the Comprehensive Services project has been to provide the classroom teacher with techniques and knowledge through which he or she can change the behavior, academic performance, and affective reactions of students in the classroom. Therefore, the emphasis in the overall evaluation for this project has been on student behaviors. Teacher opinion, or the opinion of project staff personnel, has not been used to evaluate outcomes,[1/] though it is recognized that such opinions are important and meaningful. However, the evaluation design stresses data that are relatively objective and that are direct indices of or are based upon student behaviors.

The basic evaluation design adopted at the beginning of the three-year Comprehensive Services project has been continued throughout the program. As would be expected in any major project conducted in an on-going school system, it has been necessary to make adjustments and changes in both the process activities of the project and in the evaluation design. These changes resulted from funding changes, from operational experiences in the conduct of the project, from suggestions of

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[1/] As noted in the discussion of procedures for selecting Experimental and Control students, the teacher did provide information used in selecting students. However, such information was provided by the previous year's teacher and was not used as an outcome measure.

teachers and principals, from administrative requirements of the school system or the State Department of Education external to (but impinging on) the project, and some were natural consequences of the execution of the project over time. Despite such modifications, the original design involving (1) special in-service training for teachers as the effector mechanism, (2) comparison of various teacher groups based on their type of in-service training, and (3) the use of student behavioral outcomes as the primary evaluation data has remained constant over the three years of the program.

DESIGN

The evaluation design adopted at the outset of the three-year project was a 2 x 2 x 2 design with two treatment groups (teachers), two subject groups (students), and data gathered at two points in time (observations). Several different data sets were utilized. The primary data were actual classroom observations made by a specially trained group of outside (i.e., non-teacher) observers. Since the project was limited financially in terms of the number of such observers it would employ, it was necessary to sample on both the treatment variable (teachers) and on the subject variable (students). In addition, as will be elaborated later, the simple dichotomy on the treatment variable suggested by the 2 x 2 x 2 design actually involves, in this third year of the project, some five identifiable groups of teachers.

A summary description of the design is as follows. *Treatment groups*, in the basic design, consisted of two groups of elementary teachers; (1) those who had received the special in-service training related to emotional conflict, including the contingency management techniques, and (2) those who had not received such special training. There were 183 teachers who received the special training over the three-year period. *Subject groups* were two groups of elementary school students drawn from the 4,608 students enrolled in the Dothan elementary schools; (1) students whose

behavior or self-report during the preceding school year could be characterized as indicative of significant socio-emotional conflict (N = 510), and (2) students whose behavior or self-report during the preceding school year gave no evidence of socio-emotional conflict (N = 611). These two groups comprise the two basic subject populations from which samples of N = 274 and N = 176, respectively, were drawn for the third-year evaluation. Two sets of *behavioral observations* were gathered, at the beginning and end of the 1973-74 school year, respectively. These pre- and post-observations of the occurrence of inappropriate behavior were made in the classroom by 18 observers specially trained for this purpose. The observations provided the data for analysis to assess the effects of the special in-service teacher training on student classroom behavior. In addition, various other types of data (see section on Evaluation Instruments), were used for pre-post comparisons.

TREATMENTS (Teachers)

As stated, the two basic treatment, or teacher, groups being compared were: (1) the group who received the full program of special in-service training, and (2) the group who received no in-service training or whose in-service training did not include the special contingency management techniques. The effects of these treatments, presumably, would be reflected in actual student behavior, i.e., the evaluation looked for effects of the teacher in-service training in the behavior of their students rather than in the behavior of the teachers, even though changes in teacher behavior might be inferred from the changes in student behavior.

Those elementary teachers who received the full special in-service training will be referred to in this report as the *Building Representative Group*, and the abbreviation BR will be used. The BR teacher population can be divided into three subgroups: BR1 includes those teachers who received their special in-service training during the first year of the project, 1971-72; BR2 includes those teachers

who received such training during the second year, 1972-73; and BR3 includes those teachers trained during the project's third year, 1973-74.

Those elementary teachers who did not fall in any of the three BR groups described will be referred to as the *Other Teacher Group*, abbreviated OT. Two OT subgroups are distinguished. OT4 includes those teachers who received a partial in-service training program during the 1973-74 school year, while OT5 includes those teachers who received no special in-service training during any of the three years of the Comprehensive Services project.

As can be seen, the design treatment variable dichotomy actually involves five different teacher subgroups. This is a natural consequence of the operation of the project over the three-year period. Also, it allows a longitudinal examination of the program results.

The reader may protest, with some justification, that the OT4 group might better have been labeled as BR4 since they did receive a substantial amount of in-service training. However, the principal common feature of the in-service training program of all three BR groups was that each received an in-depth exposure to contingency management in which consultants worked actively with the teachers in their classrooms on specific student behavior programs. The OT4 group lacked this important training. It should be noted that the continued operation of the in-service training over the three years left only a small group of teachers (N = 22) for the OT5 group, i.e., those who had received no in-service training at all.

In all, some 124 of the system's 198 elementary teachers for the 1973-74 school year fell into the BR groups, as defined, and 74 fell into the OT groups. As previously noted, it was not possible to gather evaluation observation data in the classrooms of all teachers due to financial constraints. Therefore, a sampling of teachers from the BR and OT groups was drawn based on: (1) the total

number of target students on whom observational data potentially could be collected,[1] (2) the distribution of target students in the classrooms of the various teachers,[2] (3) representation of the various BR and OT groupings, (4) representation of the 13 elementary schools, and (5) representation of grades two through six. Figure 1 gives a distribution of the numbers of teachers from the level of the total elementary teacher population down to the numbers of teachers in the various BR and OT groups in whose classrooms student observational data were collected. Thus 55% of the BR1 teachers (i.e., 12 of 22) were in the sample, as were 57% of the BR2 teachers, 51% of the BR3 teachers, 35% of the OT4 teachers, and 59% of the OT5 teachers.

SUBJECTS (Students)

Two pools of students were identified, Experimentals and Controls. From these, the specific students on whom behavioral observations were to be made were selected. The Experimental Pool consisted of those students whose previous in-school behavior gave some indication of socio-emotional conflict. The Control Pool was selected from those students with a clear absence of indication of such conflict. The criteria involved in this selection were as follows:

Experimental Pool

Operationally, Experimental students were selected principally on the basis of data obtained from (1) the Exceptional Student Rating Form (ESRF), and (2) the Self Observation Survey (SOS). Both of these instruments were completed at the close

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[1] As is explained in the section dealing with evaluation instruments, the maximum number of students who could have been observed was 540. The actual number observed and whose data were used in the analyses reported was somewhat smaller.

[2] The number of target Experimental or Control Students, i.e., those meeting the criteria described in the Subjects section, could vary from zero to five or more per classroom. Teachers having the larger numbers of such students were selected for inclusion in the teacher samples.

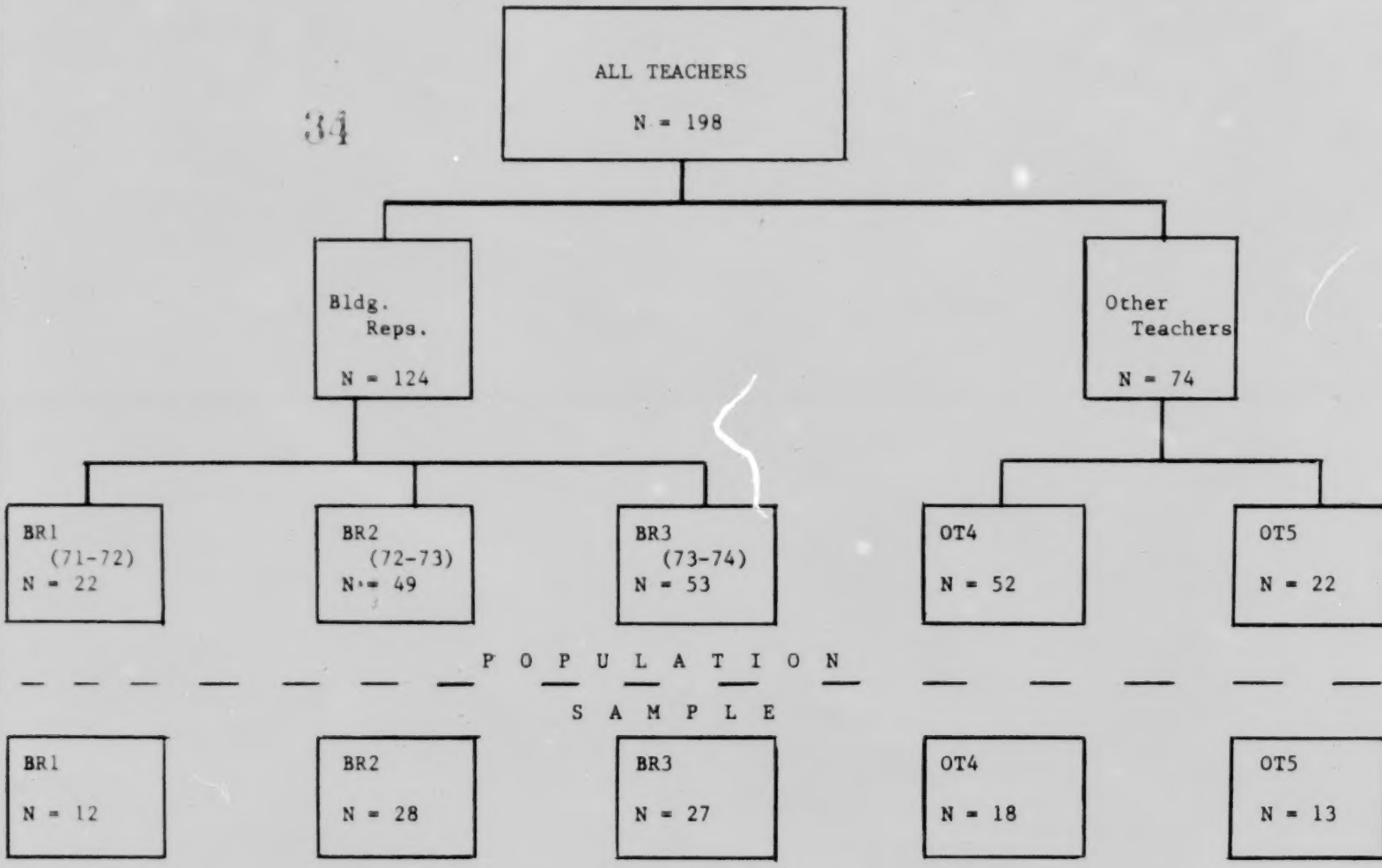

Figure 1. Distribution of teacher population into teacher (treatment) groups and numbers of teachers sampled in each of five teacher groups.

of the preceding school year, the former by the student's preceding year's teacher and the latter by the student himself. The ESRF is simply a form on which the teacher identifies students who exhibit specified types of behavioral exceptionality. A specimen of the Exceptional Student Rating Form is in Appendix A. The SOS instrument was used in lieu of the Popham Self Appraisal Inventory, a measure of student self-concept, that was used in the student selection process the first two years of the project. The SOS[1/] is also a measure of self-concept. It was used during the third year of the project in accord with an administrative decision of the Project Director since the SOS was being administered to all Dothan elementary students as a part of a nation-wide normative study. The selection procedure was designed to identify students exhibiting the highest degree of conflict-related behavioral exceptionality (as judged by the preceding year's teacher) and those exhibiting the weakest self-concept (as indicated by the student's self report on the SOS). Only grades two through six were eligible for inclusion in this study since one of the selection criteria (the ESRF) required that a child be enrolled in school the previous year. Other selection criteria for the Experimental Pool required that the student must (1) have received a first-place nomination on one or more of the six behavior descriptions listed on the Exceptional Student Rating Form, or (2) have a stanine score of 1 (weak self-concept) on any one of the four scales of the SOS and have no 8 or 9 stanine score (strong self-concept) on the remaining scales, or (3) have a stanine score of 2 on any two or more scales while having no 8 or 9 score on the remaining scales. Any second- through sixth-grade student who met one or more of the above criteria was assigned to the Experimental Pool. The Experimental Pool totaled 510 students, or 13% of the total elementary

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[1/] For further information on the SOS the reader is referred to:
Institute for the Development of Educational Auditing (IDEA)
1121 Arlington Boulevard, Arlington, Virginia 22209

enrollment. Of these, 274 students were observed in the initial data collection session (pre-test observation).

Control Pool

Students selected for the Control Pool were selected on the basis of their Exceptional Student Rating Form and a HumRRO prepared semantic differential Pupil Rating Form (PRF) (see Appendix A). The PRF form was completed by the previous year's teacher, as was the ESRF. For a student to be categorized as a Control, it was required that (1) he have no nominations on any of the six behavioral descriptions listed in the Exceptional Student Rating Form, (2) have no stanine 1 score on the SOS and not more than one stanine 2 on the SOS, and (3) have no 4, 5, 6, or 7 ratings on the Pupil Rating Form. Also, the sum of the 2 and 3 ratings received on the 24 items of this form must not have exceeded 16. Of the 611 students (16% of the total population) who met the criteria for inclusion in the Control Pool, 176 were observed in the initial data collection session.

It was required, in addition, that any student selected for either the Experimental or Control Pools have complete records on the Self Observation Survey, the Pupil Rating Form, and the Exceptional Student Rating Form. Students who met these criteria, but were (1) repeaters, (2) being taught by the same teacher who had taught them the previous year, or (3) were scheduled to be elsewhere than in their regular class when their class was scheduled to be observed were excluded from selection for either pool. First-grade students had no Self Observation Survey, Exceptional Student Rating Form, or Pupil Rating Form scores since they were not in school the previous year and were, thus, not eligible for selection in either pool.

A third group of students existed as a by-product of the selection process, those students who fell between the standards set for the Controls and those required of the Experimentals. This pool of students will be referred to as Unclassified.

Students from this pool were chosen at random within a given classroom to be observed when there were not at least five Experimentals and/or Controls in that classroom.[1/] During the initial data collection session classroom observations were intended to be made on 56 students from this pool. Since the data on these Unclassified students are not pertinent to the major concerns of this project, they were not analyzed and are not included in this report.

The identification of students for the Experimental and Control Pools and the ultimate selection of specific students to be observed were performed by HumRRO personnel. Identities of the specific students to be observed were not known to the Dothan City Schools' administrative personnel or to the classroom teacher in whose room the observations were made. Observers were furnished the names of the students they were to observe, but they did not know which were Experimental, Control, and Unclassified students.

One of the principal indices used in this evaluation is the data obtained from observations of student classroom behavior by the specially trained observers. There were some practical constraints on the number of students who could be observed and, hence, on the number that could be used in the analysis. The number of trained observers was the basic determining factor. At the beginning of the school year 18 observers participated in collecting the initial (pre-test) data during the first week of classroom observations. Nine of the 18 observers made additional pre-test classroom observations during a second week (the following week) of observations. This made an effective observer population of 27. Since a given observer could collect data on only 20 students per week, the total possible sample was 540

[1/] The observation schedule called for observations to be made on five students in each classroom in which the special observers gathered data. The Unclassified students were observed merely to fill out their observation schedules.

students. The planned data collection schedule for the initial (pre-test) data collection period and the numbers of students actually observed are shown in Table 2. Also shown are the numbers of students observed in the last (post-test) data collection period. It is this latter group of 236 Experimentals and 142 Controls on whom the bulk of the analyses reported here were made. The decrease in Ns from pre- to post-observations is due to absences or moves of students or to observer absence during the second data collection period.

Table 2

Numbers of Students Observed During Pre-Test and Post-Test Observation Periods by Student Category

	Pre-Test Target Sample	Pre-Test Observed Sample	Post-Test Observed Sample
Experimental Students	296	274	236
Control Students	188	176	142
Unclassified Students	56	not reported	not reported
TOTAL	540	450	378

Table 3 depicts the distribution by school and grade of the 450 students observed by the 18 observers during the pre-test data collection. Similar information on the post-test data collection is given in the Results chapter.

EVALUATION INSTRUMENTS

A number of product variables were examined as a basis for evaluating the results of the project. The evaluation instruments utilized can be classified as: (1) tests treating cognitive factors; (2) tests treating affective factors; and (3) behavioral observations.

Table 3

Distribution of Pre-Test Student Population by School, Grade, Observer and Student Classification (N=450)

SCHOOL/OBSERVER	Grade 2		Grade 3		Grade 4		Grade 5		Grad
	E	C	E	C	E	C	E	C	E
1 Cloverdale (a)			2	2					12
2 Cloverdale (b)	6	2	7	3					
3 Cloverdale (c)					10	2	1	1	
4 E. Highland	2	2			4	1	5	0	3
5 Girard (d)	2	3					3	4	2
6 Girard			2	3	4	1			5
7 Girard	2	3	3	5	3	1			
8 Grandview (e)							2	3	12
9 Grandview	9	1	1	4					
10 Grandview			4	8	3	2			
11 Grandview (b)					2	8	6	2	
12 Heard					1	12			1
13 Heard	1	3	3	1					4
14 Heard	4	1	2	2			5	5	
15 Highlands (e)	3		3	2			2	2	1
16 Lake Street (f)					3	1	8	1	4
17 Lake Street (g)	5		5		4	1			
18 Montana (h)	2	1	6	3	5				
19 Rose Hill (c)			4		4		4		3
20 Selma Street (a)			1	1	1	3	3	2	
21 Selma Street (i)			4		1	4			3
22 Selma Street	8	6	5						
23 Southside (f)	3	1	3	4					
24 Southside (h)							3	10	
25 Stringer St. (g)	2	3	6	4	3	2			
26 Stringer St. (d)					4	1	7	3	3
27 Wilson St. (i)	1	3	4		3	2	3		
TOTALS	49	29	65	42	55	41	52	33	53

The nine observers who observed for two weeks are indicated by the letters following the school name. For example, the same observer (a) observed at both Cloverdale and Selma Street schools.

40

Table 3 1973-74

Distribution of Pre-Test Student Population by School, Grade, Observer and Student Classification (N=450)

Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		TOTALS	
E	C	E	C	E	C	E	C	E	C	E	C
		2	2					12	1	14	3
6	2	7	3							13	5
				10	2	1	1			11	3
2	2			4	1	5	0	3	0	14	3
2	3					3	4	2	3	7	10
		2	3	4	1			5	4	11	8
2	3	3	5	3	1					8	9
						2	3	12	3	14	6
9	1	1	4							10	5
		4	8	3	2					7	10
				2	8	6	2			8	10
				1	12			1	2	2	14
1	3	3	1					4	6	8	10
4	1	2	2			5	5			11	8
3		3	2			2	2	1	2	9	6
				3	1	8	1	4		15	2
5		5		4	1					13	1
2	1	6	3	5						13	4
		4		4		4		3		15	
		1	1	1	3	3	2			5	6
		4		1	4			3	4	8	8
8	6	5								13	6
3	1	3	4							6	5
						3	10		4	3	14
2	3	6	4	3	2					11	9
				4	1	7	3	3	2	14	6
1	3	4		3	2	3				11	5
49	29	65	42	55	41	52	33	53	31	274	176

o observed for two weeks are indicated by the letters following
r example, the same observer (a) observed at both Cloverdale and

Cognitive

Standardized achievement tests were the principal means of assessing the accomplishment of educational objectives. The original design called for administration of the Metropolitan Achievement Test (MAT) at the end of each academic year. Results from the previous year served as pre-test data, while the results from the current year served as post-test data for that year. This was the manner in which achievement data were collected during the first year of the project. However, due to an administrative decision of the Dothan City Schools beyond the control of the Project Director this practice was changed during the second year of the project (1972-73). Achievement test administration was moved to the beginning of the school year. Therefore, post-test achievement data for the second year were not available until the third year, and post-test data for this, the third, year of the project will not be available until September or October of 1974, after this report is prepared. In addition, it should be noted that the Metropolitan Achievement Test was used for both pre- and post-test measures the first year of the project, whereas the California Achievement Test was used thereafter.

Affective

The original design called for two affective measures, the Popham Self Appraisal Inventory and the semantic differential Pupil Rating Form. These instruments were intended primarily as tools to be used in the identification of student Experimental and Control Pools. They could, of course, be used in a pre-post comparison. However, due to the change from the Popham scale to the SOS scale, as previously mentioned, and the lack of need to identify student pools for the 1974-75 school year, due to the project's planned termination, no post-test scores on these two measures are available to evaluate affective outcomes during the third of the project.

Behavioral

As previously noted, the principal outcome data were observations of actual student behavior in the classrooms of the samples of BR and OT teachers. The following paragraphs describe in detail the manner in which these data were gathered.

Observer Training. Eighteen women were selected by Dothan City Schools personnel for observer training in a HumRRO conducted workshop. On September 20-21, 1973, a one and one-half day workshop on the observation and recording of classroom behavior was held at Girard Elementary School. HumRRO personnel responsible for the workshop explained the purposes of the overall project and of the observer training program. Attendees were told that their training was intended to prepare them to observe and record, accurately and reliably, certain behaviors of selected pupils. Also, all 18 women had been classroom observers in the first two years of the project, so this training was in the nature of a review for them.

After the initial meeting, the trainee group was divided into smaller groups. Materials used in training included (1) handouts describing categories of student behavior to be observed, (2) data record forms, (3) stopwatches, (4) clipboards, (5) pencils, and (6) practice data collection schedules. A total of five hours of classroom training was administered over the one and one-half days. In addition, seven hours were spent in practice observation and data collection in actual classrooms.

During the first morning of the workshop, the various categories of student behavior were explained and discussed. These behaviors are described in Appendix B. The necessity for objective observation and recording was stressed. Initial practice sessions of observing and recording "student behavior" (with HumRRO personnel acting as "students") revealed little variation in trainees' practice data. Discussion of the variance that did exist increased trainees' appreciation

of the importance of their own attending behavior, physical points of view (e.g., sitting where the students could be most efficiently observed), familiarity with categories of student behaviors, etc. Subsequent practice sessions reduced data variance even more.

The necessity for observer confidentiality regarding the data collection process was emphasized. This was required to prevent, to the extent possible, changes in student and teacher behavior as a function of their knowing which students had been selected for observation. The importance of avoiding observer bias and the need for objective and unemotional collection of data were also discussed. These latter points were pertinent due to the possible acquaintance of some of the observers with students and teachers in the classrooms to which they were assigned for data collection. Observers were instructed on how to assume minimally noticeable roles in the classroom and how to minimize social interaction with students and teachers during data collection.

The observers were assigned to schools by HumRRO personnel primarily on the basis of their knowing and being known by the fewest students and teachers at those schools.

Data Collection Procedure. Five students and an alternate were selected for observation in each of the classrooms in which observations were to be made. As many Experimental students as possible were utilized so as to maximize the number of conflict students observed. To the extent that there were fewer than five Experimentals in a given classroom, Controls were utilized, and in the event there were not at least five students from these two pools in a classroom, names were chosen randomly from among the Unclassified students in that classroom to provide the required five students to be observed. On each Data Record Form, the name of a sixth student, or alternate, was added, in the event one of the five intended for observation was unavailable on the first observation day. If the alternate was

substituted for this reason, he was also observed on subsequent occasions in lieu of the originally specified student. Samples of the individual and summary Data Record Forms are shown in Appendix C.

The study design called for each of 18 observers to be assigned five students in each of four classrooms for each week of the observation period, or a total of 20 students per observer per week. Since there were, effectively, 27 observers, this allowed a total of 540 students on whom data potentially would be collected. As previously noted, the distribution of students selected for the two pools, absences, and other factors reduced the number of Experimental and Control students on whom pre-test observations were actually made to 450.

Two sets of observational data are analyzed in this report. The first was collected in September, 1973, and the second in April, 1974. A short refresher training period was given the observers prior to the second observation period.

Each observer collected data on the same students on both the pre- and post-test occasions. As described in the Results section, however, some data were lost on the post-test due to various kinds of schedule interference or absence of students or observers, thereby reducing the number of students observed post-test to 378.

Data were collected on five consecutive school days during each of the data collection periods. Six samples of student behavior per class period were recorded, resulting in a total of 30 possible observations per student over each of the five-day data collection periods.

Data were collected in the following manner. Observers entered their assigned classrooms at the beginning of the regular periods. The first 20 minutes were spent in an accommodation phase during which it was intended that the students, teacher, and observer would get accustomed to each other. The observer also used this time to locate the subject students to be observed. About 30 minutes were then spent in

observing the five subject students, one after the other, in a series of six observational sequences for each student. Approximately one minute was spent on each observation, as follows. The observer visually identified the appropriate student, started the stopwatch, and closely watched the student's behavior for a timed 45 seconds. The observer then immediately recorded the occurrence or non-occurrence of each of the nine[1/] behavior categories listed by that student's name on the Data Record Form, a process that usually took about 15 seconds. After recording the data, the observer looked up, identified the next student to be observed, and began the cycle again. After all five assigned students had been observed once, the observer repeated the sequence of observations five more times. In this manner each student was observed for 45 seconds on each of six occasions at five-minute intervals during one class period per day for five consecutive days.

[1/] Eight of the categories were types of inappropriate behavior; the ninth category was "appropriate."

V. RESULTS

In presenting the results, emphasis will be placed on the results of the project's third year of operation. However, frequent reference will also be made to results of the first two years of the project as well.

The reader will recall the earlier comments concerning the procedure whereby the teacher and student populations were sampled. Five teacher groups (BR1, BR2, BR3, OT4, and OT5) provide one dimension for the analyses, while the two student groups (Experimentals and Controls) provide the other. The data examined are pre- and post-test measures of performance or behavior of the two student groupings.

Figure 1 in the preceding chapter depicts the distribution of the teacher population into the various groups and shows the numbers of teachers in each group in whose classrooms observational data were gathered. Table 2 set forth the numbers of students on whom observational data were gathered on both the pre-test and the post-test. It will be recalled that 236, or 86%, of the 274 Experimental students observed on the pre-test were also observed on the post-test, while 142, or 81%, of the 176 Control students originally observed were observed on the post-test. As previously noted, the reduction in Ns from pre- to post-test was due to student absences or moves and observer absence. Previous analyses indicate that the losses are generally random in nature and that the post-test samples are representative of the pre-test groups. The analyses reported here are based on the 378 students (i.e., 236 Experimentals and 142 Controls) on whom both pre- and post-test observational data were collected. Table 4 gives the numbers of Experimental and Control students in this post-test sample for the various teacher groups. It will be noted that the Ns are generally adequate for most groups, the possible exceptions being the BR1 Control students (N=14), the OT4 Controls (N=23), and the OT5 Controls (N=20). It will be remembered that the total number of

students who could have been observed was constrained by administrative and fiscal considerations and that the BR1 and OT5 teacher subgroups were small to begin with.

Table 4

Numbers of Students with Both Pre- and Post Data
by Type and Teacher Group

	TEACHER GROUP					
	BR1	BR2	BR3	OT4	OT5	
STUDENT TYPE	(12 Tchrs.)	(28 Tchrs.)	(27 Tchrs.)	(18 Tchrs.)	(13 Tchrs.)	TOTAL
Experimentals	36	62	51	57	30	236
Controls	14	38	47	23	20	142
TOTAL	50	100	98	80	50	378

COGNITIVE OUTCOMES

Student academic achievement was the area of principal cognitive concern. As was noted in the design chapter, the change in achievement testing schedule for the Dothan City Schools has resulted in the standardized achievement test scores not being available for use as post-test indices at the end of an academic year. Consequently, the post-test data on academic achievement for the third year of the project are not available as of this writing. Data are presented for the second year.

During the first year of the project there was a slight, but not statistically significant, advantage shown in achievement gain by the students of the OT teacher group. Also, while one might logically have expected Control students to show greater gains than did Experimental students, the first year data did not bear this out. In essence, the gains in student achievement during the first year of the project did not show any systematic relationship to student or teacher variables used in this study.

Only reading achievement test scores are available for consideration in this report. In reviewing these data, the reader should keep in mind that they pertain to the *second year* project results, i.e., the 1972-73 school year. Also, it should be kept in mind that the Metropolitan Achievement Test was used for the pre-test, whereas the California Achievement Test was used for the post-test. The numbers of students represented in the achievement data for the second year are somewhat less than the numbers in the second year post-test observation sample due to incomplete or missing data for some of the students.[1/] Table 5 presents the reading achievement data for the project's second year. The pre-test data were gathered at the *end* of the 1971-72 school year, while the post-test data were gathered at the *beginning* of the 1973-74 school year. Thus, the changes in achievement cover an elapsed time period of approximately 16 months, including the 1973 summer vacation. For reference purposes, Table 5 also shows the original 1972-73 post-test sample sizes for each of the teacher-student groupings.

Table 5

Pre-Post Reading Achievement Grade-Level Gain
by Teacher-Student Groups (Second Year Results)

	Building Representatives		Other Teachers	
	Experimentals	Controls	Experimentals	Controls
M	0.5	1.2	0.6	1.3
σ	1.1	1.3	1.1	1.4
N	46	58	60	84
Post-test Sample N	87	90	109	116

1/ In view of the numbers of students for whom no data were provided, inquiry was made of the project staff on this matter. Achievement testing occurred as part of the annual system-wide testing and was external to this project. Inadvertently, an incorrect level test form was used for fifth- and sixth-grade students, thereby making their test results invalid. Hence, a substantial number of students had no valid post-test achievement scores.

As can be seen from Table 5, there is no significant difference in achievement gain between students of BR teachers and those of OT teachers. On the other hand, the difference between Experimental and Control students is significant for both the BR and OT groups (t=2.47 for BR, and t=3.13 for OT).

On the basis of this sampling of student achievement it could be concluded that the special in-service training given during the project's second year did not seem to affect reading achievement of students of the teachers who received that training. This result would be consonant with the first-year results on achievement. Of course, there have been individual anecdotes of dramatic gains in achievement by students of both teacher groups, but no systematic group differences between BR and OT teachers were shown.

The finding of a significant difference between Experimental and Control students is expected. It seems reasonable that students identified as suffering significant emotional conflict problems would show a lesser achievement gain than their Control peers whose behavior is at the opposite end of the continuum. It does suggest that more emphasis is needed on teaching techniques for conflict students. It should be noted that, while the third year of the project placed greater emphasis on teaching techniques, evaluation of its results cannot be made in this report because of the absence of any third year post-test achievement data.

The reader is cautioned to view the achievement data presented here with some reservations. First, it is a limited sampling of academic subject matter. Second, the Ns on which the data are based are only 50% - 70% the size of the original second year post-test Ns due to missing data. The representativeness of these sub-samples is unknown. Finally, the effect of changing from the Metropolitan Aptitude Test (pre-test) to the California Achievement Test (post-test) on these data is unknown.

AFFECTIVE OUTCOMES

The principal area of affective concern stated for the Comprehensive Services project was student self-concept. The Popham Self Appraisal Inventory was to be the basic measure of this factor, but as was previously noted, the Self Observation Survey (SOS) was substituted for administrative reasons. Since no post-test SOS scores were gathered at the end of the project's third year, and because of the differences between the Popham and SOS instruments, nothing can be said concerning self-concept changes over the second and third years of the project. The first year data on the affective measures gave some suggestion of greater change in self-concept, in the direction of an improved self-concept, for the Experimental students who were in the BR classrooms than for those in OT classrooms. Unfortunately, there is no means to assess whether this trend carried over into the second and third years of the project.

BEHAVIORAL OUTCOMES

As stated, the principal concern of the Comprehensive Services project was student living skills, and the primary data were observations of classroom behavior by independent observers. The behavioral observations focused on inappropriate behaviors since one of the primary problems of children with conflict problems is the relatively higher frequency with which they exhibit behavior that is inappropriate for a given occasion. In the classroom, to the extent that the child's behavior is inappropriate, it interferes with his learning and adjustment as well as that of his peers. It is for this reason that the Comprehensive Services program has focused on student classroom behavior and the teacher's classroom management skills as being of primary concern.

Data Forms Scoring

Separate scores were derived for each student for the observational data

collected during the pre- and post-test data collection sessions. These scores were a function of the total number of inappropriate behavior categories a student was observed to exhibit during an observation period and the number of times he was observed. The maximum number of observation periods possible on a given student was six per day, or a total of 30 within the five-day observation session. However, due to absenteeism and classroom interruptions, not all students were observed the maximum number of times.

A single score was obtained by summing the inappropriate behavior tally marks on the Observer Data Form (see Appendix C) and dividing by the total number of observation periods for which there were data. A tally mark represented the fact that a given category or type of inappropriate behavior had occurred during that observation period and not the frequency with which it occurred. That is, only one tally would be made for that category regardless of whether the behavior occurred once during the observation period or more than once. Therefore, the quotient from the above division is the mean number of inappropriate behavior categories a given student exhibited during an observation session. These derived scores were used in the statistical calculations reported in this section.[1/]

Observation Results

The classroom observations were the principal data used in the evaluation. In Table 6 the mean number of inappropriate behavior categories observed is given

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[1/] Reference to the Observer Data Form in Appendix C shows that there were eight different categories of inappropriate behavior that could be reported. Thus, the maximum number of tallies that could be recorded for a single 45-second observation period was eight, regardless of the number of times any one of the behaviors occurred during the 45 seconds. Since there were eight different categories of inappropriate behavior and the maximum number of times a student could be observed was 30, his maximum mean score would be 240 ÷ 30, or 8.00. In much of the discussion in this report the mean number of inappropriate behavior categories observed will be referred to as *frequency of inappropriate behavior*. The reader is cautioned to keep in mind how this "frequency" score is derived.

for the total BR and OT groups by student type. These means are based on the post-test sample Ns given in Table 2.

Table 6

Mean Number of Inappropriate Behavior Categories
Observed by Teacher-Student Group

Students	TEACHERS: Building Representatives Pre	Building Representatives Post	Other Teachers Pre	Other Teachers Post
Experimentals	0.99	0.99	1.03	1.06
Controls	0.86	0.76	0.73	0.83

The data in Table 6 show the Experimental students to have significantly higher means than the Controls in all instances. In comparing Experimental and Control students, t=2.30 for the BR pre-test; t=4.60 for the BR post-test; t=4.24 for the OT pre-test; and t=2.71 for the OT post-test. Each of these indicates differences significant beyond the 5% level of confidence.[1/] This indicates that the procedures whereby students were classified as Experimentals or Control did result in significantly different groups on the pre-test behavioral measures. The student selection procedure produces behavioral results that are compatible with that which would be predicted in a comparison of students manifesting emotional conflict problems and those without such problems.

It is of some interest to note the consistency of the student selection process and the results it produced in terms of the behavioral pre-test data over the three years of the project. Table 7 presents mean frequency[2/] of inappropriate behavior for the pre-test observations over the three years of the project.

[1/] The 5% level will be used as the level indicating statistical significance throughout this report.

[2/] See footnote, page 41.

Table 7

Mean Frequency of Inappropriate Behavior by
Student-Teacher Category by Year (Pre-test only)

	Project Year	Building Representatives		Other Teachers	
		Exper.	Control	Exper.	Control
1.	1971-72	1.20	0.93	1.11	0.96
2.	1972-73	1.11	0.97	1.05	0.91
3.	1973-74	0.99	0.86	1.03	0.73

As can be seen from Table 7, the selection process has given highly reproducible results in terms of producing groups of Experimental and Control students who differ significantly from one another on the pre-test data. This is as desired. Further, the sampling procedure produced samples of Experimental students that did not differ significantly between the two basic teacher groupings in any of the three years. In other words, at the beginning of each year, (i.e., on the pre-test) Experimental students in the rooms of BR teachers exhibited inappropriate behavior with a frequency that was not significantly different from that exhibited by Experimental students in the rooms of OT teachers. The same was true for Controls for the first two years. However, during the third year the OT Control students exhibited a significantly lower frequency of inappropriate behavior ($t=2.03$) than did the BR Controls on the pre-test. Overall, these results indicate that the student selection and sampling procedures are satisfactory. The consistency of the behavioral data over the three years also supports the contention that the observer program produced reliable and valid data.

It is of some interest to note the steady decrease in pre-test means for the Experimental students over the three years of the project. During the first year, the pre-test means for Experimental students were 1.20 and 1.11 for the BR and OT groups, respectively. The second year these values dropped to 1.11 and 1.05,

respectively, while the third year showed a further drop to 0.99 and 1.03 for the two groups. This result suggests several interesting hypotheses. Perhaps the one of most interest is that this result may be caused by the cumulative effect of the special in-service training, including the contingency management techniques, operating over the three years of the project. As more and more of the elementary schoolteachers have received this training, its effects would reach more and more children in the system with the consequence that the numbers of students deviating from the norm of inappropriate behaviors might be reduced, and that the amount of such deviation would be reduced. With reference to this last point concerning amount of deviation from the norm, it is of interest to note that the group variability in the pre-test observation data decreased each year for the Experimental students. Standard deviations for the BR group were 0.77, 0.64, and 0.50 for years one through three, while for the OT group the comparable figures were 0.55, 0.52, and 0.50, respectively.

The same situation of reducing means and standard deviations over the three years generally obtained for the Control students as well. Reference to Table 7 reveals that the only exception was the rise in mean for the BR Controls from 0.93 to 0.97 from the first to the second year. Thus, the cumulative program effect is evident for non-conflict students as well as for those manifesting indices of conflict. This finding is of considerable importance in that it suggests that the program was of benefit to all students, not just those manifesting conflict behavior.

An alternative hypothesis was advanced in the second year's evaluation report to the effect that the pre-test drop in mean for the BR Experimentals from the first year to the second might be due to the BR teachers having placed their contingency management programs in operation before the pre-test data collection for the second year was accomplished. This was possible because of the scheduling of the pre-test data collection during the 1972-73 school year (mid-October). However, this

explanation seems less likely in view of the continued drop in pre-test means during the third year. The 1973-74 pre-test data collection occurred in September, and the contingency management in-service training was organized to prevent contingency contract programs from being initiated prior to the pre-test data collection. All things considered, the cumulative effects hypothesis seems the likelier of the two in explaining the results over the program's three years.

During the second year's report it was noted that those BR teachers who were in the original first year group seemed to produce greater decreases in inappropriate student behavior than did those who were in the BR group only for the project's second year. As will be recalled from Figure 1, during the third year 22 of the 26 first-year BR teachers were still in the system, as were 49 of the 52 second-year BR teachers. In order to assess the continuing effects of their in-service training over time, students from the classrooms of some of these teachers were included in the third-year observation data. Specifically, 12 of the 22 first-year BR teachers were included, as were 28 of the 49 second-year BRs. In addition, 27 of the 53 third-year BRs who received the full in-service program were included. Behavioral data for these three BR groups and for the two OT groups are given in Table 8.

As can be seen in Table 8, the BR1 group continued their effective classroom management performance. Both their Experimental and Control students showed a reduction in inappropriate behavior from pre- to post-test. Due to the small Ns, these differences are not statistically significant (t=1.15 for BR1 Experimentals; t=1.83 for BR1 Controls). Considered with their first- and second-year data, the performance trend for this group of teachers is impressive. Their pre- and post-test means for Experimental students during the first, second, and third years, respectively, were: 1.20 and 0.90; 1.02 and 0.90; and 1.09 and 0.95. In each year they effected a reduction in inappropriate behavior over the course of the year for their Experimental students. Over the total three-year period, the BR1 Experimental

Table 8

Frequency of Inappropriate Behavior by Teacher and Student Group (Pre- and Post-Test)[a]

Teacher Group		Experimentals		Controls	
		Pre	Post	Pre	Post
BR1	M	1.09	0.95	1.11	0.89
(1971-72)	σ	0.57	0.43	0.31	0.32
	N	36	36	14	14
BR2	M	0.86	0.90	0.84	0.74
(1972-73)	σ	0.40	0.42	0.33	0.37
	N	62	62	38	38
BR3	M	1.06	1.13	0.80	0.74
(1973-74)	σ	0.54	0.66	0.36	0.32
	N	51	51	47	47
OT4	M	1.07	1.10	0.68	0.92
(1973-74)	σ	0.54	0.58	0.30	0.39
	N	57	57	23	23
OT5	M	0.96	0.97	0.78	0.72
(1973-74)	σ	0.43	0.42	0.39	0.43
	N	30	30	20	20

[a] All data are for the 1973-74 school year.

combined pre-test mean was 1.12, and the post-test mean was 0.92. Over the same three-year period the pre- and post-test means for BR1 Control students were 0.91 and 0.87, respectively.

In contrast with the performance of the BR1 group, the BR2 group over the two years in which they have functioned exhibit a somewhat different picture. The pre- and post-test means for their Experimental students for the two years combined are 1.00 and 1.01, respectively. Thus, their Experimental students exhibited no change in frequency of inappropriate behavior over the two-year period. Reference to Table 8 shows that the BR3 Experimental students also exhibited an increase in frequency of inappropriate behavior during the one year (1973-74) represented, though this increase is not statistically significant (t=0.58). However, the BR2 Control students showed a pre- to post-test decrease in inappropriate behavior for the two years combined (Pre M = 0.98; Post M = 0.90), as did the BR3 Controls (See Table 8).

It is realized that combining data over the three years of the project may be questioned, and the reader should be cautious in interpreting, but whether one views the BR1 teacher group's performance separately for the individual years, or in combination, it appears that these teachers are producing consistent results with their students. Whether this is due to selection factors related to being the first volunteers for an innovative program, to something unique in the in-service training given this first BR group, or simply to the cumulative effects of their experience in using the techniques taught in their in-service training is unknown. Regardless, this group has performed well.

In order that the reader can see the full results of the project's three years of operation, the data for all BR and OT groups have been combined for the three years. The resulting means and standard deviations are shown in Table 9. It can be seen that, in spite of the variation in performance of the BR1, BR2, and BR3 groups over the three years, combined they show an overall reduction from pre- to

post-test means for both their Experimental students (1.06 to 0.99) and for their Control students (0.92 to 0.86). The reduction for Experimentals is statistically significant (t=2.29), while that for Controls almost reaches the 5% level (t=1.92). In contrast, the combined OT groups show a slight, though not statistically significant, increase in mean from pre- to post-test (1.06 to 1.08). The Control students of the combined OT groups show a pre- to post-test mean reduction that is not statistically significant (t=1.72), a finding comparable to that for the BR group.

Table 9

Pre-Test and Post-Test Means, Standard Deviations, and Ns for Combined Three-Year Data by Teacher-Student Group

	Building Representatives				Other Teachers			
	Experimental		Control		Experimental		Control	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
M	1.06	0.99	0.92	0.86	1.06	1.08	0.89	0.84
σ	0.56	0.56	0.39	0.39	0.51	0.62	0.41	0.44
N	287	287	219	219	305	305	228	228

In comparing these three-year results for the BR and OT groups it should be noted that there were no differences in students assigned to the two teacher groups, i.e., for a given student type, in terms of their pre-test scores. The BR teachers did achieve a significant reduction in inappropriate behavior for their Experimental students, whereas the OT Experimentals showed a slight increase. Both teacher groups effected some reduction with their Control students. It appears, then, that the special in-service training did better prepare the BR teachers for dealing with the inappropriate behaviors of their Experimental students than did teachers without such training. However, the reader is again cautioned in interpreting these combined-year data, though their meaning appears fairly straightforward.

The 1973-74 behavioral observation data can be examined in a somewhat simpler format, i.e., simply in terms of the numbers of students in the various groups who showed an increase in inappropriate behavior over the course of the year and the number who showed a decrease. Of course, one would expect the results of such an examination to be generally consonant with the data already presented. The behavior change analysis, however, does give some idea of what happened to individual students.

Table 10 presents frequency data for the various teacher-student groupings. Students who showed an increase in inappropriate behavior over the year, i.e., their post-test score was greater than their pre-test score, are shown in the column labeled "increase," whereas those who showed a decrease over the year are tabulated under the column labeled "decrease." In general, the total Ns shown for any teacher-student grouping will agree with those shown in Table 2. Such discrepancies in Ns as exist are due to the small numbers of students whose pre- and post-test scores were equal. A number of Chi-square analyses of these frequency data were performed and are discussed below.

As can be seen from Table 10, the Experimental student groups showed relatively little change over the year for the various teacher groupings. The differences among the various teacher groups were not significant in terms of behavior change of Experimental students. For the Control group students, however, there were some significant differences. All BR teachers combined differed significantly ($\chi^2 = 4.54$; $p < .05$) from all OT teachers combined for their Control students. If the numbers in Table 10 are summed over these groupings for Control students, it can be seen that for the BR teachers 61 students (i.e., 10 + 26 + 25) showed a decrease in inappropriate behavior, while only 35 showed an increase. For the OT group Controls, only 18 showed a decrease, while 23 exhibited an increase.

Table 10

Direction of Change in Inappropriate Behavior
(Pre- to Post-Test) by Teacher-Student Grouping[a/]

Teacher Group	Student Group	Direction of Change: Increase	Direction of Change: Decrease	Total N
BR1	Experimental	17	19	36
	Control	4	10	14
BR2	Experimental	31	31	62
	Control	11	26	37
BR3	Experimental	27	23	50
	Control	20	25	45
OT4	Experimental	31	26	57
	Control	16	6	22
OT5	Experimental	13	17	30
	Control	7	12	19

[a/] Data are 1973-74 observations.

Also of interest is that the OT5 group (no in-service training) showed a significantly better performance with their Control students than did the OT4 group (partial in-service training). In that comparison, 16 OT4 students showed increases and 6 showed decreases, while the OT5 group showed only 7 increases and 12 decreases ($\chi^2 = 5.33$; $p < .01$). Within teacher groupings, the only significant difference was between Experimentals (75+ and 73-) and Controls (35+ and 61-) for all BRs combined. Thus, these analyses show no real differences between BR and OT groups with reference to their Experimental students, but some significant differences with respect to their Control students. BR teachers as a group obtained better results with Control students than did OT teachers as a group, and OT5 teachers obtained better results with their Control students that did OT4 teachers.

In summary of these analyses of direction of behavior change, the results are little different from those shown in Table 8. To put the Table 10 data in context, the reader should also consider the level of pre-test inappropriate behavior of the various groups as set forth in Table 8. For example, by chance, the BR1 group actually had Control students with the highest pre-test mean of any subgroup, Experimental or Control. Thus, it is understandable that the BR1 teachers may have devoted more attention to these Control students (and, hence, have accomplished a considerable reduction in their inappropriate behavior) than would normally be expected for Control students. Similarly, the superiority of the OT5 teachers over the OT4 group may be related to the relatively lower pre-test standing (i.e., less inappropriate behavior) of their Experimental students. Theirs was the only Experimental group with a pre-test mean less than 1.00. Thus, their Experimental students may have required less of their attention than did those of the other groups.

Pre-Post Correlation

In the first two years of the project the pre-test and post-test observational data showed moderately high correlations with one another. Table 11 shows the correlation of pre-test and post-test observations by student-teacher grouping for each of the three years of the project. As can be seen, most of the correlations were in the .40 to .60 range. All correlations were positive, indicating that those students who scored high on the pre-test tended to be high on the post-test, and the low pre-test scorers tended to be low on the post-test. All correlations were statistically significant.

In the first year's correlational data there was some suggestion that the BR teachers may have shown greater differential selectivity in applying their efforts to the modification of their students' behavior to a greater degree than did the OT teachers. Thus, if they concentrated more heavily on modifying the behavior

Table 11

Correlation of Pre-Test and Post-Test Observations
by Student-Teacher Group by Project Year

	Building Representatives			Other Teachers		
Students	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Experimentals	+.38	+.46	+.60	+.68	+.64	+.62
Controls	+.38	+.59	+.40	+.34	+.59	+.66

(and were successful in doing so) of their more severe "problem children," the correlation between pre- and post-test measures would be lower than if they concentrated more evenly on all students or if their efforts to modify behavior were unsuccessful. The three-year data do not strongly support this hypothesis, though, in general, the correlations for the BR group are lower than those for the OT group.

Analysis of Inappropriate Behavior Categories

Correlational analysis was not pursued beyond pre-post correlations in the previous years' report because it is generally outside the principal concern of the evaluation. However, a large number of intercorrelations based on the 1973-74 data are presented in Appendix D for the readers' inspection. A few comments on these data are in order.

The data in Appendix D are intercorrelations among the various categories of inappropriate behavior which the classroom observers had been trained to note. The eight categories of inappropriate behavior[1/] are described in detail in Appendix B. In addition to the intercorrelations of these behaviors and related factors, given

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[1/] The eight categories are: (1) Gross Motor (GM); (2) Object Noise (ON); (3) Disturbance of Other's Property (D); (4) Contact (C); (5) Verbalization (V); (6) Turning Around (TA); (7) Mouthing Objects (MO); and (8) Other Inappropriate Behavior (OIB).

separately for pre-test and post-test observations and by the four basic teacher-student groupings, Appendix D gives means and standard deviations for each of the behavior categories. Table 12 presents the mean numbers of behaviors observed in each category for each teacher-student grouping for both pre- and post-test observations. It should be noted that these data are the average numbers of total times that the various categories were marked for each student over all observation periods. For example, in the BRE (Building Representative Experimental) group, the Gross Motor (GM) category was marked a total of 3.33 times, on the average, for each student over the entire week of pre-test observations. Since the average BRE student was actually observed on an average of 28.31 separate occasions[1/] during that week, he exhibited GM behavior, on the average, 0.12 times per one-minute period of observation (i.e., 3.33 ÷ 28.31). While a number of interesting aspects of these data are discussed in subsequent paragraphs, it is worth noting here the rather high degree of consistency of these data over the four teacher-student groups and from pre-test to post-test. This consistency is encouraging with reference to the quality of data provided by the observers.

As can be seen from Table 12, the different categories of behavior are quite differentially represented in the overall "inappropriate behavior" data discussed so far in this report. For example, for the BRE group, in the pre-test data the most frequently noted category (Other Inappropriate Behavior; M = 6.09) was noted over 25 times as frequently as the least frequently noted category (Disturbance of Other's Property; M = 0.23). Similar variation exists in the other groups for both pre- and post-test data. If the various categories are rank-ordered for the different groups, it can be seen that the relative importance of the various behavior

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[1/] The actual number of observations per student works out to be slightly less than the total of 30 that was planned due to absences and related factors; see the discussion on pages 34 and 35.

Table 12

Mean Numbers of Categories of Inappropriate Behavior Observed by Teacher-Student Grouping for Pre-Test and Post-Test Observations (1973-74)

	Behavior Category	Teacher-Student Group BRE	BRC	OTE	OTC
Pre-Test Observations	GM	3.33	2.71	3.34	2.51
	ON	2.76	1.94	2.16	1.23
	D	0.23	0.16	0.36	0.09
	C	0.91	0.58	0.72	0.35
	V	5.83	5.26	6.15	4.42
	TA	3.40	2.74	3.51	1.86
	MO	5.26	6.72	6.39	5.74
	OIB	6.09	4.59	5.98	3.40
Post-Test Observations	GM	3.14	1.96	2.38	2.05
	ON	2.55	1.73	2.38	1.40
	D	0.23	0.10	0.41	0.12
	C	0.69	0.33	0.62	0.72
	V	5.56	5.12	5.60	4.98
	TA	2.20	2.14	3.00	1.81
	MO	5.30	5.62	6.83	6.44
	OIB	6.53	3.83	6.69	4.30

categories to overall inappropriate behavior frequency is about the same for both student types. The only major differences seem to be that the OIB category is the largest overall contributor for all Experimental students, whereas it is third for all Controls, and the MO category makes the greatest overall contribution to inappropriate behavior among Controls, while it is second on the list for the Experimentals. Thus, there appears to be some qualitative difference in the types of inappropriate behavior shown by Experimental and Control students in addition to the quantitative differences previously discussed.

If the pre-test and post-test means in Table 12 are compared, it can be seen that BR teachers' students exhibited reductions in inappropriate behavior from pre- to post-test in 13 of the 16 comparisons (i.e., eight categories each for Experimental and Control students), while OT teachers' students showed reductions

in only six of the 16 comparisons. The difference in the pre- and post-test category means are shown in Table 13. The minus signs denote reductions in inappropriate behavior over the course of the year, whereas the plus signs denote increases. Comparison of the frequencies of decrease and increase over these categories shows that all BR teachers' students combined showed a significantly greater number of decreases from pre- to post-test ($\chi^2 = 6.35$; $p < .01$) than did all students of OT teachers.

Table 13

Difference in Pre-Test and Post-Test Behavior Category Means by Teacher-Student Grouping and by Behavior Category[a]

Behavior Category	Teacher-Student Group			
	BRE	BRC	OTE	OTC
GM	-0.19	-0.75	-0.96	-0.46
ON	-0.20	-0.21	+0.22	+0.17
D	0.00	-0.06	+0.05	+0.03
C	-0.22	-0.25	-0.10	+0.37
V	-0.27	-0.14	-0.55	+0.56
TA	-1.20	-0.60	-0.51	-0.05
MO	+0.04	-1.10	+0.44	+0.70
OIB	+0.44	-0.76	+0.71	+0.90

[a] Minus sign indicates decrease in value from pre-test observation to post-test observation. All data are for 1973-74.

The question of the qualitative make-up of inappropriate student behavior can be examined from another perspective. Table 14 sets forth the correlations of student scores on each of the eight behavior categories with the total inappropriate behavior score. Correlations are given separately for pre-test and post-test data for each teacher-student group.

Table 14

Correlations of Behavior Category Scores with Total Inappropriate Behavior Score by Teacher-Student Group, by Behavior Category, and by Pre- and Post-Test Score

Behavior Category	Teacher-Student Group							
	BRE		OTE		BRC		OTC	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
GM	+.62	+.59	+.56	+.43	+.54	+.43	+.08	+.12
ON	+.64	+.62	+.64	+.60	+.51	+.27	+.56	+.61
D	+.44	+.41	+.38	+.56	+.14	+.21	+.15	+.03
C	+.58	+.63	+.44	+.52	+.47	+.39	+.28	+.32
V	+.65	+.69	+.64	+.72	+.62	+.66	+.57	+.67
TA	+.53	+.47	+.36	+.50	+.36	+.35	+.23	+.29
MO	+.22	+.29	+.33	+.29	+.28	+.34	+.38	+.56
OIB	+.59	+.63	+.71	+.68	+.58	+.66	+.61	+.71

In examining Table 14 the reader should note that the first two columns group Experimental students together, while the last two group Controls together. This contrasts with most tabular presentations in this report in which the grouping is by teacher type. The present grouping is to highlight differences in the correlational patterning in the data for the two types of students. Differences in correlation pattern between Experimental and Control students are more prominent than differences related to teacher type. It can be seen that for both student groups the "Mouthing Objects" category (MO) seems to be only slightly related to the total inappropriate behavior score. Thus, it would appear that the MO category is different from the other behaviors and perhaps should not be considered as an inappropriate behavior, at least in the same sense the others are. In Table 12, MO was shown to be one of the most frequently observed "inappropriate" behavior categories, but the correlational data suggest that such behavior occurred over all groups in a manner unrelated to the other types of behavior observed. Of course, the reader should not interpret this discussion as suggesting that mouthing objects is appropriate behavior. In contrast to these observations about MO behavior,

categories D and C, while of quite low frequency in Table 12, both correlate fairly highly with the total inappropriate behavior score. It may also be noted that, in general, the correlational pattern is highly similar between pre-test and post-test for all groups.

Probably the major point to be noted in Table 14 is the difference between Experimental and Control correlational patterns. For the Experimental students Disturbance of Other's Property (D) and Turning Around (TA) are fairly closely related to overall score, whereas for Control students these two categories show very little relationship to total score. There is some evidence that the Gross Motor category (GM) is less closely related to total score for the Controls than for the Experimentals, but the contrast is not as marked as for the D and TA categories. While somewhat beyond the scope of the present evaluation, a factor analytic study of these components of the inappropriate behavior score would be of interest. The present data strongly suggest qualitative differences in the behavior of the two groups of students.

Inter-School Differences

The second year's evaluation report took note of inter-school differences. As might be expected, the data suggested teachers in certain schools seemed to produce results different from those in other schools. Table 15 presents pre- and post-test means by teacher-student group for the 1973-74 data. Those schools for which no data are presented are those in which the observer was unavoidably absent during the post-test data collection period. Also, the reader should note that there is no correspondence between the number given a school in Table 15 with the number given that school in the similar table in the second-year report. This is to preserve the anonymity of school identification.

As can be seen from Table 15, there were again some substantial differences among the various schools in the observation data. The meaning of these differences, however, is not clear. First of all, it must be noted that the means in Table 15 are based on small Ns, often quite small. Therefore, it would be unwise to interpret these means as reliable indices of the "behavioral climate" of a given school, though undoubtedly there are differences in behavioral climate among the 13 schools. Secondly, inter-observer differences in observation practices are confounded with inter-school differences. Finally, it should be noted that the 13 schools did not show a reliable pattern over the two years in which the data have been analyzed by school. There were some consistencies from year to year--for example, Schools 6 and 7 showed rather low mean scores over both years, while Schools 3 and 9 showed relatively high means, but there were also numerous changes in relative position from one year to the next. A larger data base in each school would be required for meaningful inter-school conclusions to be drawn.

Grade Level Differences

In similar fashion, the data were examined by grade level. Those data are reported in Table 16. Since no first-grade students were involved in the data collection, the table covers only grades 2 - 6. As can be seen from the "all conditions" column, the general inverse relationship between grade level and amount of inappropriate behavior noted in the second year report was also found in the 1973-74 data. The higher the grade level, the less the amount of inappropriate behavior is likely to be. This is not to say that inappropriate behavior is a less serious problem at the upper grade levels; it may, in fact, be more serious due to changes in the nature of the behaviors concerned. However, in terms of the frequencies of behaviors of the types studied here, there is a general decrease in frequency with increasing grade level. This is what is expected as a

Table 15

Mean Number of Inappropriate Behavior Categories Observed by School and Teacher-Student Group

SCHOOL	BUILDING REPRESENTATIVES						OTHER TEACHERS						ALL BUILDING REPS (Exp. & Control Students Combined)			ALL O (Exp. Stude
	Experimental S's			Control S's			Experimental S's			Control S's						
	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$
1	1.52	1.20	2	.76	.97	4	1.19	1.16	6	.95	.98	2	1.01	1.05	6	1.12
2	1.24	1.12	19	1.35	.34	2	.77	.69	9	1.03	1.17	1	1.25	1.05	21	.80
3	*	*	0	*	*	0	*	*	0	*	*	0	--	--	0	--
4	1.09	1.31	11	*	*	0	1.28	1.59	4	*	*	0	1.09	1.31	11	1.28
5	.93	1.10	16	.89	.71	15	.99	1.02	9	.49	1.13	3	91	.91	31	.86
6	1.28	1.32	4	.95	.84	5	1.17	1.41	2	*	*	0	1.10	1.05	9	1.17
7	.99	.71	12	.60	.48	7	.60	.72	12	.52	.50	8	.85	.63	19	.57
8	.62	1.05	6	.92	.69	4	*	*	0	*	*	0	.74	.90	10	--
9	.75	.84	28	.70	.86	5	1.06	1.41	9	.45	.53	5	.74	.84	33	.84
10	.88	.56	7	.86	.44	3	.89	.43	5	*	*	0	.87	.52	10	.89
11	.81	.90	12	.70	.71	11	.90	1.22	8	.62	.73	9	.76	.81	23	.75
12	1.20	1.07	16	.96	.74	20	1.32	1.17	22	.94	.94	9	1.07	.86	36	1.21
13	1.04	1.02	16	.89	.95	23	1.62	1.43	1	1.07	1 23	6	.95	.98	39	1.14

Table 15

Mean Number of Inappropriate Behavior Categories Observed by School and Teacher-Student Group

TIVES ontrol S's			OTHER TEACHERS						ALL BUILDING REPS (Exp. & Control Students Combined)			ALL OTHER TEACHERS (Exp. & Control Students Combined)			ALL CONDITIONS (All Teachers, All Students)		
			Experimental S's			Control S's											
Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N
.97	4	1.19	1.16	6	.95	.98	2	1.01	1.05	6	1.12	1.11	8	1.08	1.09	14
.34	2	.77	.69	9	1.03	1.17	1	1.25	1.05	21	.80	.74	10	1.11	.95	31
*	0	*	*	0	*	*	0	--	--	0	--	--	0	--	--	0
*	0	1.28	1.59	4	*	*	0	1.09	1.31	11	1.28	1.59	4	1.14	1.39	15
.71	15	.99	1.02	9	.49	1.13	3	91	.91	31	.86	1.05	12	.90	.95	43
.84	5	1.17	1.41	2	*	*	0	1.10	1.05	9	1.17	1.41	2	1.11	1.12	11
.48	7	.60	.72	12	.52	.50	8	.85	.63	19	.57	.63	20	.70	.63	39
.69	4	*	*	0	*	*	0	.74	.90	10	--	--	0	.74	.90	10
.86	5	1.06	1.41	9	.45	.53	5	.74	.84	33	.84	1.10	14	.77	.92	47
.44	3	.89	.43	5	*	*	0	.87	.52	10	.89	.43	5	.88	.49	15
.71	11	.90	1.22	8	.62	.73	9	.76	.81	23	.75	.96	17	.75	.87	40
.74	20	1.32	1.17	22	.94	.94	9	1.07	.86	36	1.21	1.10	31	1 13	.99	67
.95	23	1.62	1.43	1	1.07	1 23	6	.95	.98	39	1.14	1.26	7	.98	1.02	46

Table 16

Mean Number of Inappropriate Behavior Categories
Observed by Grade Level and Teacher-Student Group

GRADE	BUILDING REPRESENTATIVES						OTHER TEACHERS						ALL BUILDING REPS (Exp & Control Students Combined)			ALL OT (Exp. Studer
	Experimental S's			Control S's			Experimental S's			Control S's						
	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$
2	1.11	1.10	30	.88	.77	23	1.51	1.37	11	.44	.33	3	1.01	.95	53	1.28
3	.78	.93	24	1.06	.82	15	1.01	1.11	33	.78	.83	19	.89	.89	39	.93
4	1.08	1.10	29	.93	.76	26	.96	1.17	17	.72	1.05	11	1.01	.94	55	.86
5	1.11	1.01	35	.70	.79	18	.81	.68	11	.65	.58	4	.97	.93	53	.77
6	.79	.80	31	.72	.69	17	.95	.85	15	.77	.84	6	.76	.76	48	.90

Table 16

Mean Number of Inappropriate Behavior Categories
Observed by Grade Level and Teacher-Student Group

IVES		OTHER TEACHERS						ALL BUILDING REPS (Exp & Control Students Combined)			ALL OTHER TEACHERS (Exp. & Control Students Combined)			ALL CONDITIONS (All Teachers, All Students)		
ntrol S's		Experimental S's			Control S's											
Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N	Pre $\bar{X}$	Post $\bar{X}$	N
.77	23	1.51	1.37	11	.44	.33	3	1.01	.95	53	1.28	1.14	14	1.07	.99	67
.82	15	1.01	1.11	33	.78	.83	19	.89	.89	39	.93	1.01	52	.91	.96	91
.76	26	.96	1.17	17	.72	1.05	11	1.01	.94	55	.86	1.13	28	.96	1.00	83
.79	18	.81	.68	11	.65	.58	4	.97	.93	53	.77	.66	15	.93	.87	68
.69	17	.95	.85	15	.77	.84	6	.76	.76	48	.90	.85	21	.80	.79	69

function of behavioral and psychological maturation as well as from the behavior-specific learning that school exposure produces by design.

Workshop Performance and Student Behavior Change

Among the most interesting results of the project's first two years has been the relationship between BR teacher performance in the contingency management workshops and student behavior changes as reflected in the classroom behavioral observation data. At the time the workshops were given, the instructors were asked to rate the teacher participants in terms of the likelihood that they would utilize the contingency management techniques effectively in their classrooms. Such utilization, or lack thereof, might reasonably be expected to be reflected in the behavior of students in their classes. Accordingly, the BR workshop participants were dichotomized into "High" and "Low" groups on this basis. These two groups were, in turn, further dichotomized into two groups each. The two High groups then were labeled "+ +" and "+," while the two Low groups were labeled "-" and "- -." Thus, the + + group represents the upper quarter of the teachers on this classification, and the - - group represents the bottom quarter. Behavioral data were then examined as a function of these groupings.

The 1973-74 data were examined in similar fashion. Table 17 shows the breakout of pre- to post-test increase or decrease in inappropriate behavior for Experimental students as a function of High versus Low teacher workshop classification. Table 18 presents similar data for Control students. Table 19 depicts data for Experimental students as a function of the "+ +" versus "- -" teacher groupings, while Table 20 presents Control student data for the "+ +" versus"- -" teacher groups. Tables 21 - 24 present mean behavior frequencies for the pre- and post-test observations for these same teacher groups.

Table 17

Student Behavior Change by Teacher Workshop Performance Classification (Experimental Students)

Teacher Workshop Classification	Change in Inappropriate Behavior: Increase	Decrease	Totals
High	14	13	27
Low	10	9	19
Totals	24	22	46

$\chi^2 = 0.003$ $p > .99$

Table 18

Student Behavior Change by Teacher Workshop Performance Classification (Control Students)

Teacher Workshop Classification	Change in Inappropriate Behavior: Increase	Decrease	Totals
High	14	15	29
Low	6	8	14
Totals	20	23	43

$\chi^2 = 0.11$ $p > .70$

Table 19

Student Behavior Change by Teacher Workshop Performance Classification (Experimental Students)

Teacher Workshop Classification	Change in Inappropriate Behavior: Increase	Decrease	Totals
+ +	3	9	12
- -	5	4	9
Totals	8	13	21

$\chi^2 = 2.04$ $p < .20 > .10$

Table 20

Student Behavior Change by Teacher
Workshop Performance Classification
(Control Students)

Teacher Workshop Classification	Change in Inappropriate Behavior		
	Increase	Decrease	Totals
+ +	6	4	10
- -	6	3	9
Totals	12	7	19

$\chi^2 = 0.09 \quad p > .75$

Table 21

Mean Pre- and Post-Test Behavior Observation Scores by
Teacher Workshop Performance Classification
(Experimental Students)

Teacher Workshop Classification	Means	
	Pre-Test	Post-Test
High	1.18	1.24
Low	0.93	0.91

Table 22

Mean Pre- and Post-Test Behavior Observation Scores by
Teacher Workshop Performance Classification
(Control Students)

Teacher Workshop Classification	Means	
	Pre-Test	Post-Test
High	0.76	0.69
Low	0.93	0.86

Table 23

Mean Pre- and Post-Test Behavior Observation Scores by Teacher Workshop Performance Classification (Experimental Students)

Teacher Workshop Classification	Means	
	Pre-Test	Post-Test
+ +	1.29	1.15
- -	1.05	1.06

Table 24

Mean Pre- and Post-Test Behavior Observation Scores by Teacher Workshop Performance Classification (Control Students)

Teacher Workshop Classification	Means	
	Pre-Test	Post-Test
+ +	0.65	0.63
- -	0.79	0.89

As can be seen, none of the Chi-squares for the frequency data in Tables 17 - 20 reaches the required 5% level of significance, though the comparison of Experimental students of + + and - - teacher groups approaches significance. Similarly, none of the comparisons of means within teacher groups (i.e., pre-test versus post-test) or across teacher group (e.g., post ++ versus post - -) reaches the 5% level with the exception of the comparison of post-test mean for Control students of + + teachers (M = 0.63) with the post-test mean of Control students of - - teachers (M = 0.89). This latter comparison yielded t = 2.40. Post-test mean comparisons of High versus Low teachers approached significance for both Experimental students (t = 1.83) and Control students (t = 1.84). In general, the trend of these results is the same as the previous years' results, but the

relationship between teacher workshop performance and student behavior is not as pronounced in the 1973-74 data.

On the basis of the three years of the project, it would appear that the effect that the teacher's classroom management practices has on the behavior of the students is related to whether or not the teacher participated in the special in-service training and how the teacher participated in that training, particularly the contingency management portion of that training. Of course, it is likely that selection factors were operating, and that the more effective teachers after workshop training may also have been more effective than their peers before the workshop training. However, that is speculative since no data exist in this evaluation that can be used as a pre-workshop index of teacher performance. The data do support, though, the contention that the BR teachers, over the three years of the project, did tend to perform better, in terms of student outcomes, than did the OT teachers, and that the better performers in the contingency management workshop tended to produce better student behavioral outcomes than did those teachers who performed less well in the workshop.

Attendance Data

A final area of student performance, school attendance, was examined. As was found in past years, there were no significant differences in student attendance data as a function of teacher group. The only significant difference found was between Experimental and Control students, a not unexpected result. As a matter of information, attendance data are given in Table 25. Data from the preceding school year, 1972-73, are used as pre-test data, and those from the current year, 1973-74, comprise the post-test data.

It should be noted that the data in Table 25 are based on slightly smaller Ns than the behavioral data post-test sample. This was due to the fact that

Table 25

Mean Student Absences by Teacher-Student Group and Year

	Teacher Group			
	Building Representatives		Other Teachers	
Student Group	1972-73	1973-74	1972-73	1973-74
Experimentals	6.55	6.54	7.29	7.31
Controls	4.19	5.37	5.59	5.75

certain students' attendance records could not be secured in time for this report. However, the Ns represent approximately 95% of the original samples, so they likely present an adequate picture of the total post-test sample.

SUMMARY OBSERVATIONS

Since this is the final year of the Comprehensive Services project, it is appropriate to review the principal objectives of the project and its accomplishments with reference to those objectives. Some of the comments are based directly on the evaluation data presented in this and previous reports, while others are based on the general observations of the evaluation team over the three years in which they have interacted with the students, teachers, principals, and project staff, as well as with the Dothan City Schools administrative staff.

While certain acknowledgements are made in the Preface to this report, further note should be made of the excellent efforts of those concerned with the project, particularly the classroom teachers. They must be the real agents of change and progress in public education, for it is they who provide the most frequent and the most effective interface with the focal point of the education system, the students themselves.

Education is an institution and, for that reason, it changes slowly. In recent years there has been much attention given to educational changes such as new books,

TV, multimedia instruction, computer-assisted instruction, etc., but, important though these changes may be, it is still the teacher who is the most important and effective aspect of any innovation or change in education. Therefore, it is appropriate that projects such as the present one recognize the teacher's role and attempt to effect constructive system changes through the medium of the teacher. In the present case, the teachers were certainly the critical ingredient in the benefits achieved.

Obviously, not all project objectives were completely accomplished, but the project did make significant progress and has resulted in changes that will continue after the project's termination. In terms of the various categories of project objectives outlined in Chapter III, the following summary observations are offered.

Student-Related Objectives

The principal objectives of the Comprehensive Services for Children project were those related to students. With reference to producing beneficial changes in the behavior of those students of main concern to the project, those with socio-emotional conflict problems, the data over the three years of the project indicate that these students did benefit. Their behavior tended to become more appropriate for the school situation as a result of the training given the teachers. While there were some conflict students whose behavior was unaffected, the data suggest very strongly that the program did help the conflict students, and that it benefitted the non-conflict students as well. Further, there is some suggestion that the benefits are cumulative and carry over from one year to the next. It would be improper to conclude that all children benefitted from the program, or that major or spectacular benefits for individual children were commonplace, though there were such instances. However, it is felt that the Comprehensive Services project has, in large part, made progress toward this major objective area, improving student behavior.

In contrast, the data do not indicate any substantial progress with reference to student objectives such as improved academic achievement or improved attendance. Again, on an individual case basis there have been some substantial improvements, but on a group basis this has not been the case. As noted in the report, this is not too surprising since academic achievement was not the principal goal of the project.

Overall, the project has made significant progress toward the accomplishment of its student-related objectives.

Staff-Related Objectives

It follows, at least to some extent, that if there was progress in the accomplishment of student-related objectives, there was progress in the accomplishment of staff-related objectives. There have been changes in staff capabilities resulting from the project. The term "turnkeying" can be applied to the manner in which the project has produced new skills and knowledge with the elementary staff that will continue to operate in the future.

The extent to which staff-related objectives were accomplished with individual teachers varied widely. As the project involved more and more of the population of elementary teachers, the staff benefits from the in-service training program probably declined for the newer participants. This is probably inevitable for any teacher educational program involving new practices in which the initial trainees are volunteers, but in which later stage participation is progressively less voluntary.

While the staff objectives have been substantially accomplished for the teaching staff, progress in developing a group of central staff personnel with in-depth expertise in the areas of interest has not been accomplished as well. Lack of funding with a resulting reduction in central staff resource personnel and staff turnover

are the principal reasons. Such matters were largely beyond the control of the project staff, and were not related to the manner in which the project was conceived and designed. Nevertheless, this particular aspect of the staff-related objectives was not accomplished in a manner such as to result in turnkeying an in-depth resource group back into the ongoing system.

Parent-Related Objectives

Involvement of parents on a program basis was difficult. Involvement tended to be related to individual problem situations. There were, of course, numerous communications with parents by the teachers and other agents of the school system, but it was not possible to implement a program of parent involvement as an integral part of the Comprehensive Services project per se. The evaluation design requirement for not divulging the identity of the target students further complicated this matter. For these reasons, parent involvement was largely on an individual basis.

A parental involvement with the program which is worthy of note was the part played by the classroom behavior observation team. Their participation was, of course, not related to the type of intervention objectives described under the "parent-related" heading. However, the observers, who were parents of children in the school system, made a significant contribution to the project. Their participation is one example of the many ways in which parents can work cooperatively with the schools in achieving common goals.

Community-Related Objectives

An active program of disseminating information to the community was conducted. The project was given much favorable publicity, as for example when it received national recognition by the Department of Health, Education, and Welfare as an exemplary program. Also, there was a vigorous effort to integrate the activities of all the helping agencies in the community through the formation of a Human Resources

Council. This Council provided a focal point for interagency referral, service delivery, and cooperative projects.

Administration-Related Objectives

Certainly, some of the administration-related objectives of the project were accomplished. A program model for meeting the needs of a significant group of children was developed, implemented, and evaluated. The Superintendent has available information about program costs and outcomes, and about program strengths and weaknesses, on the basis of which he can make future plans. Necessarily, such information is always incomplete. The critical question is whether the information is sufficient to aid the decision-making process of the school administrator. In all, it is felt that a sound data base has been provided for such decisions. Time and future students provide the ultimate answer as to its adequacy.

APPENDIX A

1. EXCEPTIONAL STUDENT RATING FORM (ESRF)

2. PUPIL RATING FORM (PRF)

DOTHAN CITY SCHOOLS
Room Rating Form
Exceptional Student Rating Form

School _____ Grade _____

Rating Teacher _____ Date _____

INSTRUCTIONS: Read each paragraph below and indicate by name any pupil or pupils in your room this school year who tend to act in the manner described. No pupil will act as illustrated in all respects, but there may be one or more in your room who generally act in the manner described. If so, list them in order in the spaces provided. If there are more than four pupils who fit a particular paragraph, list only the four who best fit it. You may have less than four to list for one or more of the paragraphs, and you may list any pupil under more than one paragraph.

A child who is AGGRESSIVE commits one or more of the following kinds of acts with relative frequency: hitting, punching, kicking, slapping, striking with hands or objects; throwing objects at others; pulling hair, disturbing others' books, desk, etc.; destroying another's property. If there were pupils in your room this year whom you consider particularly AGGRESSIVE, list them below in order.

Most aggressive _____

Second most aggressive _____

Third most aggressive _____

Fourth most aggressive _____

A child who is VERBALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: talks to others when not permitted; interrupts teacher; interrupts other pupils' recitations; calls teacher's name to get attention; laughs, coughs, etc., to get attention; makes frequent "wise cracks" in class. If there were pupils in your room this year whom you consider particularly VERBALLY DISRUPTIVE, list them below in order.

Most verbally disruptive _____

Second most verbally disruptive _____

Third most verbally disruptive _____

Fourth most verbally disruptive _____

A child who is SOCIALLY INSECURE commits one or more of the following kinds of acts with relative frequency: speaks in a very soft voice; avoids playing with other pupils; speaks in halting voice; keeps to self; contributes to class only when called upon; remains in seat more than most pupils; avoids being first at anything; shirks from notice. If there were pupils in your room this year whom you consider particularly SOCIALLY INSECURE, list them below in order.

Most socially insecure _____

Second most socially insecure _____

Third most socially insecure _____

Fourth most socially insecure _____

A child who is BEHAVIORALLY DISRUPTIVE commits one or more of the following kinds of acts with relative frequency: gets out of seat without permission; runs and/or jumps around the classroom and halls; rocks seat; taps pencil; drops books; touches other pupils' desks. If there were pupils in your room this year whom you consider particularly BEHAVIORALLY DISRUPTIVE, list them below in order.

Most behaviorally disruptive _____

Second most behaviorally disruptive _____

Third most behaviroally disruptive _____

Fourth most behaviorally disruptive _____

A child who has LOW SELF-ESTEEM commits one or more of the following kinds of acts with relative frequency: professes inability to do assignments; fails to undertake assigned work; expresses self-criticism; avoids competitive situations; avoids responding to the teacher's questions; turns in assignments late; takes more time to answer questions than most other pupils; expresses satisfaction with poor performance. If there were pupils in your room this year whom you consider to have particularly LOW SELF-ESTEEM, list them below in order.

Lowest in self-esteem _____

Second lowest in self-esteem _____

Third lowest in self-esteem _____

Fourth lowest in self-esteem _____

Room Rating Form - 3

A child who is EMOTIONALLY OVER-REACTIVE commits one or more of the following kinds of acts with relative frequency: cries; soils clothes; loses temper; throws things (not necessarily at people); destroys things; over reacts to criticism; shouts at others; accuses others when anything goes wrong. If there were pupils in your room this year whom you consider particularly EMOTIONALLY OVER-REACTIVE, list them below in order.

Most emotionally over-reactive _____

Second most emotionally over-reactive _____

Third most emotionally over-reactive _____

Fourth most emotionally over-reactive _____

DOTHAN CITY SCHOOLS
Pupil Rating Form

INSTRUCTIONS TO RATING TEACHER

This rating form consists of pairs of generally favorable and generally unfavorable words--one of each per pair. Each pair defines the limits of a continuum or scale describing some aspect of behavior, personality, or adjustment. Every pupil can be described in terms of his placement at some point on each continuum or scale. Your task is to circle a number from "1" to "7"--to describe each of your pupils on each of the scales listed. Circling the number "1" indicates that, in your opinion, the pupil is best described by the more favorable of the two words, i.e., the word on the left. Circling the number "7" indicates he is best described by the less favorable word. You may circle any number "2" through "6" to indicate that he is somewhere between the two extremes. The numbers "2" and "3" are favorable, while "5" and "6" are unfavorable, and "4" is about midway between the two extremes. Please be sure, however, to look at both words defining a scale before making your judgment. Most pupils will probably fall toward the more favorable end of the scales. Examples of the scales are shown below. Please complete one answer sheet (all scales) for each pupil currently enrolled in your class. Mark only one number of each scale.

EXAMPLE

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad

DOTHAN CITY SCHOOLS
Pupil Rating Form

Pupil _____ School _____

Teacher _____ Grade _____

agreeable	1	2	3	4	5	6	7	disagreeable
happy	1	2	3	4	5	6	7	sad
friendly	1	2	3	4	5	6	7	hostile
sociable	1	2	3	4	5	6	7	withdrawing
cooperative	1	2	3	4	5	6	7	antagonistic
secure	1	2	3	4	5	6	7	anxious
industrious	1	2	3	4	5	6	7	lazy
self-confident	1	2	3	4	5	6	7	timid
trustworthy	1	2	3	4	5	6	7	deceitful
easy-going	1	2	3	4	5	6	7	quarrelsome
attentive	1	2	3	4	5	6	7	inattentive
adaptable	1	2	3	4	5	6	7	non-conforming
energetic	1	2	3	4	5	6	7	listless
even-tempered	1	2	3	4	5	6	7	bad-tempered
cheerful	1	2	3	4	5	6	7	depressed
obedient	1	2	3	4	5	6	7	defiant
courteous	1	2	3	4	5	6	7	disrespectful
cautious	1	2	3	4	5	6	7	impulsive
flexible	1	2	3	4	5	6	7	compulsive
mature	1	2	3	4	5	6	7	infantile
calm	1	2	3	4	5	6	7	restless
compassionate	1	2	3	4	5	6	7	malicious
tractable	1	2	3	4	5	6	7	stubborn
modest	1	2	3	4	5	6	7	arrogant

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APPENDIX B

CATEGORIES OF STUDENT BEHAVIOR

CATEGORIES OF STUDENT BEHAVIOR FOR USE OF DOTHAN CITY SCHOOLS OBSERVERS[1]

Gross Motor. Getting out of seat, standing up, running, hopping, skipping, jumping, walking around, moving chairs, disruptive movement without noise, striking at (but not touching) others, etc.

Object Noise. Tapping pencil or other objects, clapping, tapping feet, rattling or tearing paper, throwing book on desk, slamming desk. (Be conservative, rate only if you can hear the noise with eyes closed. Do *not* include accidental dropping of objects.)

Disturbance of Other's Property. Grabbing objects or work, knocking neighbor's books or other items off desk, destroying another's property, pushing with desk (rate only if someone is there), throwing objects at another person without hitting them. (Do not include accidental disturbance of other's property.)

Contact. Hitting, kicking, shoving, pinching, slapping, striking with object, throwing object which hits another person, poking with object, biting, pulling hair, touching, patting, etc. (Any physical contact is rated.)

Verbalization. Carrying on conversations with other children when inappropriate. Answering teacher without raising hand or without being called on; making comments or calling out remarks when no questions have been asked; calling teacher's name to get her attention; crying, screaming, singing, whistling, laughing, coughing, or blowing loudly. (These responses may be directed to teacher or children or they may be undirected.)

Turning Around. Inappropriately turning head or head and body to look at another person, showing objects to another child, attending to another child. (Must be of 4-sec. duration, or more than 90 degrees -- using desk as a reference. Not rated unless seated.)

Mouthing Objects. Bringing thumb, fingers, pencils, or any object into contact with the mouth.

Other Inappropriate Behavior. Ignoring teacher's question or command. Doing something different from that directed to do, including minor motor behavior such as playing with pencil or eraser when supposed to be writing, coloring while a record is on, doing spelling during the arithmetic lesson, playing with objects. *The child involves himself in a task that is not appropriate.*

Appropriate Behavior. Time on task, e.g., answering questions, listening, raising hand, working on assignments. (Must include whole observation interval except for Turning Around responses of less than 4-sec. duration.)

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[1]These categories of student behavior were adapted from "Behavioral Coding Categories for Children" in the article "Rules, Praise, and Ignoring: Elements of Elementary Classroom Control," by Charles H. Madsen, Jr., Wesley, C. Becker, and Don R. Thomas, (Florida State University and University of Illinois), *Journal of Applied Behavior Analysis*, 1968, *I*, 139-150.

APPENDIX C

DOTHAN CITY SCHOOLS OBSERVER DATA FORMS

DOTHAN CITY SCHOOLS OBSERVER DATA FORM

School _____ Grade _____ Day of Week _____

Teacher _____ Room _____ Time _____

Observer _____ Obs. No. _____ Date _____

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

NAME - ALTERNATE									
OBS	GM	ON	D	C	V	TA	MO	OIB	AB
1									
2									
3									
4									
5									
6									

GM - Gross Motor
ON - Object Noise
D - Disturbance of Other's Property
C - Contact
V - Verbalization
TA - Turning Around
MO - Mouthing Objects
OIB - Other Inappropriate Behavior
AB - Appropriate Behavior

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STUDENT DATA WEEKLY SUMMARY SHEET

Student _____

School _____ Grade _____

Teacher _____

BR 01 Observer No. _____
1 2 3

Student Group _____ _____

OBSERVATION

	GM	ON	D	C	V	TA	MO	OIB	TOTALS
MON									
TUE									
WED									
THUR									
FRI									
TOTALS									

APPENDIX D

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIES

1. BUILDING REPRESENTATIVES - EXPERIMENTAL STUDENTS
2. BUILDING REPRESENTATIVES - CONTROL STUDENTS
3. OTHER TEACHERS - EXPERIMENTAL STUDENTS
4. OTHER TEACHERS - CONTROL STUDENTS

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORI
BUILDING REPRESENTATIVES-EXPERIMENTAL STUDENTS
(N=149)

PRE TEST

		GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C
PRE TEST	Gross Motor GM		.18	.39	.57	.48	.27	.15	.15	.65	.13	.62	.45	.11	.11	.33
	Object Noise ON			.41	.28	.29	.22	.11	.46	.64	.07	.64	.09	.42	.29	.28
	Disturb Other's Property D				.50	.24	.16	.06	.17	.44	.01	.44	.16	.20	.14	.40
	Contact C					.46	.27	.05	.11	.57	.00	.58	.33	.23	.10	.48
	Verbalization V						.44	-.01	.26	.71	.17	.65	.36	.23	.14	.33
	Turning Around TA							.16	.16	.60	.20	.53	.16	.11	-.09	.28
	Mouthing Objects MO								-.00	.36	.17	.32	.07	.14	.06	.03
	Other Inapp. Behavior OIB									.62	.15	.59	.13	.41	.17	.24
	Total Categories Σ Cat.										.23	.94	.36	.41	.19	.45
	Total Observations Σ Obs.											-.05	.01	.09	-.19	.00
	Overall Mean O'all $\bar{X}$												.35	.39	.28	.45
POST TEST	Gross Motor GM													.35	.23	.49
	Object Noise ON														.25	.39
	Disturb Other's Property D															.29
	Contact C															
	Verbalization V															
	Turning Around TA															
	Mouthing Objects MO															
	Other Inapp. Behavior OIB															
	Total Categories Σ Cat.															
	Total Observations Σ Obs.															
	Overall Mean O'all $\bar{X}$															

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs	O'all $\bar{X}$	GM	ON	D	C
$\bar{X}$	1.33	2.76	0.23	0.91	5.83	3.40	5.26	6.09	27.81	28.31	0.99	3.14	2.53	0.23	0.69
σ	2.99	2.68	0.58	1.50	4.50	3.46	3.66	5.38	14.63	3.92	0.50	3.16	3.17	0.69	1.37

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIES
BUILDING REPRESENTATIVES-EXPERIMENTAL STUDENTS
(N=149)

PRE TEST

	GM	ON	D	C	V	TA	MO	OTB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM		.18	.39	.57	.48	.27	.13	.15	.65	.13	.62
ON			.41	.28	.29	.22	.13	.46	.64	.07	.64
D				.30	.24	.16	.06	.17	.44	.01	.44
C					.46	.27	.05	.17	.57	.00	.58
V						.44	-.01	.26	.71	.17	.65
TA							.16	.16	.60	.20	.53
MO								-.00	.34	.17	.32
OTB									.62	.15	.59
Σ Cat.										.23	.94
Σ Obs.											-.05
O'all $\bar{X}$											

POST TEST

	GM	ON	D	C	V	TA	MO	OTB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM	.45	.11	.11	.33	.42	.08	.02	.10	.33	.06	.30
ON	.09	.42	.29	.28	.24	.22	.01	.33	.38	-.02	.42
D	.16	.20	.14	.40	.38	.09	-.03	.09	.29	.01	.32
C	.33	.23	.10	.48	.39	.22	-.04	.20	.39	.08	.35
V	.36	.23	.14	.33	.50	.23	.02	.24	.44	.18	.39
TA	.16	.11	-.09	.28	.17	.27	.09	.21	.27	.18	.19
MO	.07	.14	.06	.03	.02	.14	.42	.11	.21	.18	.13
OTB	.13	.41	.17	.24	.27	.24	.04	.67	.52	.15	.52
Σ Cat.	.36	.41	.19	.45	.48	.34	.15	.50	.63	.22	.57
Σ Obs.	.01	.09	-.19	.00	.09	.10	.05	.13	.11	.38	.06
O'all $\bar{X}$	.35	.34	.28	.45	.46	.32	.14	.47	.60	.10	.60
GM		.35	.23	.49	.57	.17	.02	.23	.61	.19	.59
ON			.25	.39	.37	.27	.16	.39	.66	.21	.62
D				.29	.36	.16	.02	.19	.37	.02	.41
C					.62	.41	.03	.28	.64	.14	.63
V						.35	.13	.27	.75	.30	.69
TA							.12	.35	.55	.30	.47
MO								.21	.40	.29	.29
OTB									.71	.32	.63
Σ Cat.										.41	.91
Σ Obs.											.04
O'all $\bar{X}$											

	GM	ON	D	C	V	TA	MO	OTB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
$\bar{X}$	3.13	3.[illegible]	[illegible]	0.31	3.43	3.40	3.26	6.09	27.81	28.31	0.49
S	.42	.4[illegible]	.[illegible]	1.50	4.20	1.46	3.66	5.38	14.63	3.92	0.50

	GM	ON	D	C	V	TA	MO	OTB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
$\bar{X}$	3.14	2.55	0.23	0.69	5.56	2.20	3.30	6.33	26.26	26.62	0.99
S	3.16	3.17	0.69	1.37	4.93	2.39	3.60	5.65	15.69	5.83	0.52

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORI
BUILDING REPRESENTATIVES-CONTROL STUDENTS
(N=99)

PRE TEST

		GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C
PRE TEST	Gross Motor	GM		.29	.21	.16	.28	.18	-.13	.30	.55	.09	.53	.29	.23	.06	.25
	Object Noise	ON			.15	.19	.08	-.08	-.01	.51	.49	.00	.51	.10	.37	.01	-.04
	Disturb Other's Property	D				.02	.13	-.02	-.18	.12	.16	.06	.14	12	.08	.13	.02
	Contact	C					.28	.18	.17	.14	.45	.01	.47	.14	.09	.08	.11
	Verbalization	V						.23	-.06	.11	.60	-.00	.62	.26	.08	.28	.27
	Turning Around	TA							-.01	-.07	.39	.17	.36	.12	-.14	-.08	.16
	Mouthing Objects	MO								-.06	.32	.18	.28	-.08	.01	-.05	.05
	Other Inapp. Behavior	OIB									.61	.12	.58	.04	.37	.16	.08
	Total Categories	Σ Cat.										.20	.97	.22	.28	.17	.27
	Total Observations	Σ Obs.											.00	.03	-.10	-.01	-.02
	Overall Mean	O'all $\bar{X}$												.23	.33	.17	.25
POST TEST	Gross Motor	GM													.07	.21	.23
	Object Noise	ON														-.07	.06
	Disturb Other's Property	D															.08
	Contact	C															
	Verbalization	V															
	Turning Around	TA															
	Mouthing Objects	MO															
	Other Inapp. Behavior	OIB															
	Total Categories	Σ Cat.															
	Total Observations	Σ Obs.															
	Overall Mean	O'all $\bar{X}$															

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C
$\bar{X}$	2.71	1.94	0.16	0.58	5.26	2.74	6.72	4.59	24.69	28.72	0.86	[illegible]	1.73	0.10	0.33
σ	2.33	1.81	0.55	0.86	4.11	2.96	4.06	4.49	10.28	2.85	0.35	1.94	1.87	0.33	0.65

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIES

BUILDING REPRESENTATIVES-CONTROL STUDENTS

(N=99)

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PRE TEST

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM		.29	.21	.16	.28	.18	-.13	.30	.55	.09	.53
ON			.15	.19	.08	-.08	-.01	.51	.49	.00	.51
D				.02	.13	-.02	-.18	.12	.16	.06	.14
C					.28	.18	.17	.14	.45	.01	.47
V						.23	-.06	.11	.60	-.00	.62
TA							-.01	-.07	.39	.17	.36
MO								-.06	.32	.18	.28
OIB									.61	.12	.58
Σ Cat.										.20	.97
Σ Obs.											.00
O'all $\bar{X}$											

POST TEST

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM	.29	.23	.06	.25	.05	.05	-.34	-.02	.01	-.16	.01
ON	.10	.37	.01	-.04	.05	-.02	-.04	.28	.20	-.07	.2
D	.12	.08	.13	.02	.14	-.07	-.09	-.04	.03	-.06	.0
C	.14	.09	.08	.11	.17	.03	.06	.12	.20	.03	.1
V	.26	.08	.28	.27	.47	-.09	.03	.14	.33	.07	.2
TA	.12	-.14	-.08	.16	.01	.21	-.06	.09	.07	.13	.0
MO	-.08	.01	-.05	.05	-.07	.02	.30	-.05	.07	-.02	.0
OIB	.04	.37	.16	.08	.11	.05	-.11	.48	.29	.03	.2
Σ Cat.	.22	.28	.17	.27	.25	.06	-.02	.33	.36	.02	.3
Σ Obs.	.03	-.10	-.01	-.02	-.09	.05	.08	-.12	-.07	.23	-.1
O'all $\bar{X}$	.23	.33	.17	.25	.28	.03	-.03	.36	.38	-.03	.4
GM					.21	.33	.31	.10	-.03	.13	.42	.02	.4
ON					-.07	.06	.18	-.10	-.24	.34	.28	.02	.2
D						.08	.18	-.02	.07	.05	.19	-.01	.2
C							.36	.16	.06	.10	.37	.04	.3
V								.12	-.02	.35	.70	.18	.6
TA									.03	.22	.41	.19	.3
MO										.13	.40	.19	.1
OIB											.73	.22	.6
Σ Cat.												.29	.9
Σ Obs.													-.0
O'all $\bar{X}$													

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
$\bar{X}$	2.71	1.94	0.16	0.58	5.26	2.74	6.72	4.59	24.69	28.72	0.86
σ	2.33	1.81	0.55	0.86	4.11	2.96	4.06	4.49	10.28	2.85	0.35

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
	1.96	1.73	0.10	0.33	5.12	2.14	5.62	3.83	20.83	27.48	0.
	1.94	1.87	0.33	0.65	4.13	2.55	3.94	3.86	9.98	4.54	0.

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORI

OTHER TEACHERS-EXPERIMENTAL STUDENTS

(N=87)

PRE TEST

		GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C
PRE TEST	Gross Motor	GM		.36	.21	.46	.50	.06	-.16	.32	.58	-.04	.36	.24	.18	.26	.10
	Object Noise	ON			.21	.34	.35	.02	.11	.46	.62	-.08	.64	.21	.40	.21	.23
	Disturb Other's Property	D				.36	.28	.10	.13	.24	.40	.03	.38	.21	.22	.28	.23
	Contact	C					.51	.08	.02	.22	.51	.13	.44	.18	.08	.10	.25
	Verbalization	V						.36	-.05	.21	.66	-.03	.64	.08	.08	.21	.13
	Turning Around	TA							.10	.12	.44	.16	.36	-.01	.00	-.04	-.02
	Mouthing Objects	MO								.14	.36	.05	.33	-.03	.36	.00	.11
	Other Inapp. Behavior	OIB									.73	-.05	.71	.26	.44	.33	.36
	Total Categories	Σ Cat.										.00	.96	.25	.44	.30	.30
	Total Observations	Σ Obs.											-.27	-.26	-.19	-.08	.01
	Overall Mean	O'all $\bar{X}$												.31	.48	.32	.28
POST TEST	Gross Motor	GM													.47	.41	.21
	Object Noise	ON														.7	.25
	Disturb Other's Property	D															.25
	Contact	C															
	Verbalization	V															
	Turning Around	TA															
	Mouthing Objects	MO															
	Other Inapp. Behavior	OIB															
	Total Categories	Σ Cat.															
	Total Observations	Σ Obs.															
	Overall Mean	O'all $\bar{X}$															

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C
$\bar{X}$	3.34	2.16	0.36	0.72	6.15	3.51	6.39	5.98	28.72	28.36	1.03	2.38	2.38	0.41	0.62
σ	3.22	2.24	0.68	1.06	3.85	3.25	3.98	5.82	13.73	3.04	0.50	2.80	2.56	1.24	1.08

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIES

OTHER TEACHERS EXPERIMENTAL STUDENTS

(N=87)

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PRE TEST

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM		.36	.21	.46	.50	.06	-.16	.32	.38	-.04	.38
ON			.21	.34	.21	.02	.11	.46	.62	-.08	.64
D				.36	.28	.10	.13	.24	.40	.03	.38
C					.51	.08	.02	.22	.51	.13	.44
V						.36	-.05	.21	.66	-.03	.64
TA							.10	.12	.44	.16	.36
MO								.14	.36	.05	.33
OIB									.73	-.05	.71
Cat.										.00	.96
Obs.											-.27
all $\bar{X}$											

POST TEST

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM	.24	.18	.26	.10	.20	.28	-.11	.11	.23	.02	.23
ON	.21	.40	.21	.23	.31	.10	.20	.42	.46	.19	.42
D	.21	.22	.28	.23	.21	.33	.01	.29	.34	.08	.34
C	.18	.08	.10	.25	.20	.34	-.03	.09	.24	.12	.21
V	.08	.08	.21	.13	.38	.36	.00	.15	.31	-.02	.32
TA	-.01	.00	-.04	-.02	.09	.36	-.16	-.09	.03	-.14	.11
MO	-.03	.36	.00	.11	.03	.05	.41	.22	.27	.22	.23
OIB	.26	.44	.33	.36	.40	.27	.08	.68	.64	.09	.65
Cat.	.25	.44	.30	.30	.43	.43	.13	.49	.62	.12	.62
Obs.	-.26	-.19	-.08	.01	-.16	.15	.04	-.18	-.15	.07	-.12
all $\bar{X}$	.31	.48	.32	.28	.46	.35	.12	.55	.64	.12	.62

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
GM		.47	.41	.21	.39	.05	-.21	.30	.48	.24	.43
ON			.37	.25	.44	.18	.10	.39	.64	.26	.60
D				.25	.38	.23	.02	.40	.56	.08	.56
C					.48	.43	.17	.29	.57	.17	.52
V						.52	-.02	.38	.76	.26	.72
TA							-.02	.06	.4	.10	.50
MO								.21	.34	.28	.29
OIB									.74	.32	.68
Cat.										.40	.93
Obs.											.09
all $\bar{X}$											

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
$\bar{X}$	3.34	2.16	0.38	0.72	6.15	3.51	6.39	5.98	28.72	28.36	1.03
σ	3.22	2.24	0.68	1.06	3.85	3.23	3.98	5.82	13.73	3.04	0.50

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
$\bar{X}$	2.38	2.38	0.41	0.62	5.60	3.00	6.83	6.69	27.82	26.06	1.06
σ	2.80	2.56	1.24	1.08	4.79	3.51	4.36	6.24	15.75	5.74	0.53

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIE

OTHER TEACHERS-CONTROL STUDENTS

(N=43)

PRE TEST

POST TEST		GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C	V
Gross Motor	GM		.21	-.12	.02	.43	-.08	-.26	-.12	.29	.40	.08	.54	.09	.09	.24	-.
Object Noise	ON			.04	.01	.44	-.16	.06	.17	.53	-.13	.56	.11	.43	-.16	.13	.
Disturb Other's Property	D				-.04	-.05	-.02	.08	.15	.08	-.17	.15	-.26	-.07	-.12	.01	-.
Contact	C					.36	.07	-.07	.14	.29	-.10	.28	.00	.11	.12	.41	.
Verbalization	V						.36	-.14	.02	.70	.12	.57	.23	.22	-.02	.38	.
Turning Around	TA							-.13	-.10	.21	-.06	.23	-.10	-.20	-.05	-.08	.
Mouthing Objects	MO								.30	.45	.11	.38	-.02	.36	.23	.16	.
Other Inapp. Behavior	OIB									.55	-.17	.61	.01	.37	-.09	.11	.
Total Categories	Σ Cat.										.08	.89	.22	.50	.05	.40	.
Total Observations	Σ Obs.											-.36	.19	-.08	.21	.14	-.
Overall Mean	O'all $\bar{X}$												.08	.48	-.04	.26	.
Gross Motor	GM													.06	.07	-.01	-.
Object Noise	ON														.08	.25	.
Disturb Other's Property	D															.39	.
Contact	C																.
Verbalization	V																
Turning Around	TA																
Mouthing Objects	MO																
Other Inapp. Behavior	OIB																
Total Categories	Σ Cat.																
Total Observations	Σ Obs.																
Overall Mean	O'all $\bar{X}$																

	GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$	GM	ON	D	C	V
$\bar{X}$	2.51	1.23	0.09	0.35	4.42	1.86	5.74	3.40	19.60	27.63	0.73	2.05	1.40	0.12	0.72	4.
σ	2.05	1.96	0.29	0.75	4.07	1.74	4.25	2.40	8.88	4.10	0.35	1.95	1.77	0.32	1.01	3.

INTERCORRELATIONS OF PRE- AND POST-TEST BEHAVIOR CATEGORIES

OTHER TEACHERS-CONTROL STUDENTS

(N=43)

PRE TEST

GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
	.21	-.11	.02	.43	-.08	-.26	-.12	.29	.40	.07
		.04	.01	.44	-.16	.06	.17	.53	-.13	.56
			-.04	-.05	-.02	.08	.13	.08	-.17	.15
				.36	.07	-.07	.14	.29	-.10	.28
					.36	-.14	.02	.70	.12	.57
						-.13	-.10	.21	-.06	.23
							.30	.45	.11	.38
								.55	-.17	.61
									.08	.89
										-.26

POST TEST

GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
.34	.09	.09	.24	-.15	.14	-.35	-.20	-.10	.03	-.01
.11	.43	-.16	.13	.30	.00	.14	.25	.32	.10	.46
-.26	-.07	-.12	.01	-.13	-.01	.06	.03	-.05	-.18	-.06
.00	.11	.12	.41	.08	.34	.04	-.17	.09	.08	.09
.23	.22	-.02	.38	.36	.65	-.05	-.12	.25	.09	.35
-.10	-.20	-.05	-.08	.19	.45	-.10	-.12	-.01	.14	-.11
-.02	.36	.23	.16	.38	-.04	.38	.32	.44	.18	.36
.01	.37	-.09	.11	.26	.09	.41	.65	.58	.06	.52
.22	.50	.05	.40	.51	.46	.25	.32	.60	.21	.62
.19	-.08	.21	.14	-.18	.02	-.50	-.51	-.39	-.29	-.23
.08	.48	-.04	.26	.54	.40	.44	.53	.70	.30	.66
	.06	.07	-.01	-.02	.00	.04	-.03	.18	.34	.12
		.08	.25	.42	.27	.40	.41	.67	.22	.61
			.39	.17	.20	-.05	-.12	.10	.14	.03
				.31	.39	-.04	-.08	.24	-.01	.32
					.44	.34	.41	.72	.27	.67
						-.07	-.07	.33	.06	.29
							.56	.75	.35	.56
								.76	.18	.71
									.38	.87
										.00

	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
.51	1.23	0.09	0.33	4.42	1.86	5.74	3.40	19.60	27.43	0.73
.05	1.96	0.29	0.25	4.07	1.74	4.25	3.40	8.88	4.10	0.35

GM	ON	D	C	V	TA	MO	OIB	Σ Cat.	Σ Obs.	O'all $\bar{X}$
2.05	1.40	0.12	0.72	4.98	1.81	6.44	4.30	21.70	24.84	0.83
1.95	1.77	0.32	1.01	3.12	2.13	4.65	5.05	11.91	5.18	0.42